Service Manual

TFT LCD COLOR COMPUTER DISPLAY

SONY

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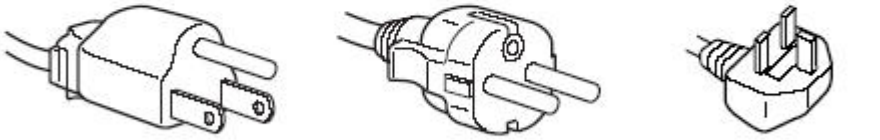
1. Precaution

Warning on power connections

- Use the supplied power cord. If you use a different power cord, be sure that it is compatible with your local power supply.
  For the customers in the U.S.A.
  If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.
  For the customers in the UK
  If you use the monitor in the UK, be sure to use the appropriate UK power cord.

Example of plug types



for 100 to 120 V AC for 200 to 240 V AC for 240 V AC only

The equipment should be installed near an easily accessible outlet.

Installation

Do not install or leave the monitor:

- In places subject to extreme temperatures, for example near a radiator, heating vent, or in direct sunlight. Subjecting the monitor to extreme temperatures, such as in an automobile parked in direct sunlight or near a heating vent, could cause deformations of the casing or malfunctions.
- In places subject to mechanical vibration or shock.
- Near any equipment that generates a strong magnetic field, such as a TV or various other household appliances.
- In places subject to inordinate amounts of dust, dirt, or sand, for example near an open window or an outdoor exit. If setting up temporarily in an outdoor environment, be sure to take adequate precautions against airborne dust and dirt. Otherwise irreparable malfunctions could occur.

Handing the LCD screen

- Do not leave the LCD screen facing the sun as it can damage the LCD screen. Take care when you place the monitor by a window.
- Do not push on or scratch the LCD screen. Do not place a heavy object on the LCD screen. This may cause the screen to lose uniformity or cause LCD panel malfunctions.
- If the monitor is used in a cold place, a residual image may appear on the screen. This is not a malfunction. The screen returns to normal as the temperature rises to a normal operating level.
- If a still picture is displayed for a long time, a residual image may appear for a while. The residual image will eventually disappear.
- The LCD panel becomes warm during operation. This is not a malfunction.

Maintenance

- Be sure to unplug the power cord from the power outlet before cleaning your monitor.
- Clean the LCD screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the LCD screen's coating.
- Clean the cabinet, panel, and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzine.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Note that material deterioration or LCD screen coating degradation may occur if the monitor is exposed to volatile solvents such as insecticide, or if prolonged contact is maintained with rubber or vinyl materials.

Transportation

- Disconnect all cables from the monitor and grasp both side of the LCD display firmly taking care not to scratch the screen when transporting. If you drop the monitor, you may be injured or the monitor may be damaged.
- When you transport this monitor for repair or shipment, use the original carton and packing materials.

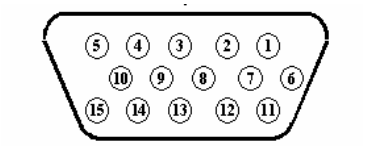
2. Specification

2.1 Product character

LCD Panel	Driving system	TFT LCD
	Size	19.0"
	Type	M190EN04 V5
	Pixel pitch	(0.098 x 3)mm(H) x 0.294mm(V)
	Viewing angle	170(H) 170(V)
	Luminance	300 cd/m^2 (typ)
	Contrast Ratio	600:1 (typ)
	Response time	16ms (typ)
	Display colors	16.7 million Colors
	Max dimension	Horizontal: 376.320mm Vertical: 301.056mm
Input signals	R G B Analog	0.7Vp-p
	R G B Digital	TMDS
	H/V separate	TTL level
	Horizontal frequency	28kHz–80kHz (Analog)
		28kHz–64kHz (Digital)
	Vertical rate	48-75Hz (Analog)
		60Hz (Digital)
	Recommend resolution	1280 x 1024@60HZ
Power consumption	Normal operation	≤50W
	Active off (deep sleep)	≤1W
	Power off	≤1W
	Main power off	0W
Power supply	AC voltage	100~240VAC,50~60Hz
Operating condition	Temperature	5-35°C
	Humidity	10-80%

2.2 Interface description

1. HD 15 Signal Input Pin Assignments

NO.	Description	NO.	Description
1.	Red Video	9.	+5V
2.	Green Video(Sync on Green)	10.	Sync Return
3.	Blue Video	11.	ID (GND)
4.	ID(GND)	12.	DDC Data
5.	Sense of connection PC	13.	Horizontal Sync
6.	Red Video Return	14.	Vertical Sync
7.	Green Video Return	15.	DDC Clock
8.	Blue Video Return		
VGA Connector layout			
			

2.3 Factory preset mode

Resolution	Frequency (KHz)	Vertical (Hz)	Clock (MHZ)
720 × 400	31.469	70.087	28.322
640 × 480	31.469	59.940	25.175
640 × 480	35.000	66.667	30.240
640 × 480	37.500	75.000	31.500
720 × 480	35.200	60.000	31.505
800 × 600	35.156	56.250	36.000
800 × 600	37.879	60.317	40.000
800 × 600	48.077	72.188	50.000
800 × 600	46.875	75.000	49.500
800 × 600	49.725	74.551	57.283
1024 × 768	48.363	60.004	65.000
1024 × 768	56.476	70.069	75.000
1024 × 768	60.023	75.029	78.750
1024 × 768	60.2	75	80.000
1152 × 864	67.5	75	108.000
1152 × 870	68.9	75	100.000
1152 × 900	61.8	66	92.940
1152 × 900	71.7	76	105.590
1170 × 584	31.2	50	46.200
1280 × 960	60.0	60	108.000
1280 × 1024	63.981	60.020	108.00
1280 × 1024	79.976	75.025	135.00

3. OSD operation

3.1 Generalization

Press the power button to turn the monitor on or off. The other control buttons are located at front panel of the monitor. By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor, the power indicator will light up.

3.2 Key control

Power Switch: When the Power button is pushed, the status shall be changed into Power On within 2 seconds. Besides, Power Switch: the picture and the green LED shall be lit. When the Power button is pushed again, the status shall be changed into Power Off within 1 second. Besides, the picture and the green LED shall disappear.

Menu Button: OSD window shall be displayed by pressing the “Menu” button in the Power On condition.

(Arrow) Button: These buttons are used to select the menu items make adjustments.

OK Button: This button activates the selected menu item and adjustments made using the Arrow buttons.

ECO Button: This button is used to reduce the power consumption.

Main Power Switch: This switch turns the monitor’s main power on and off.

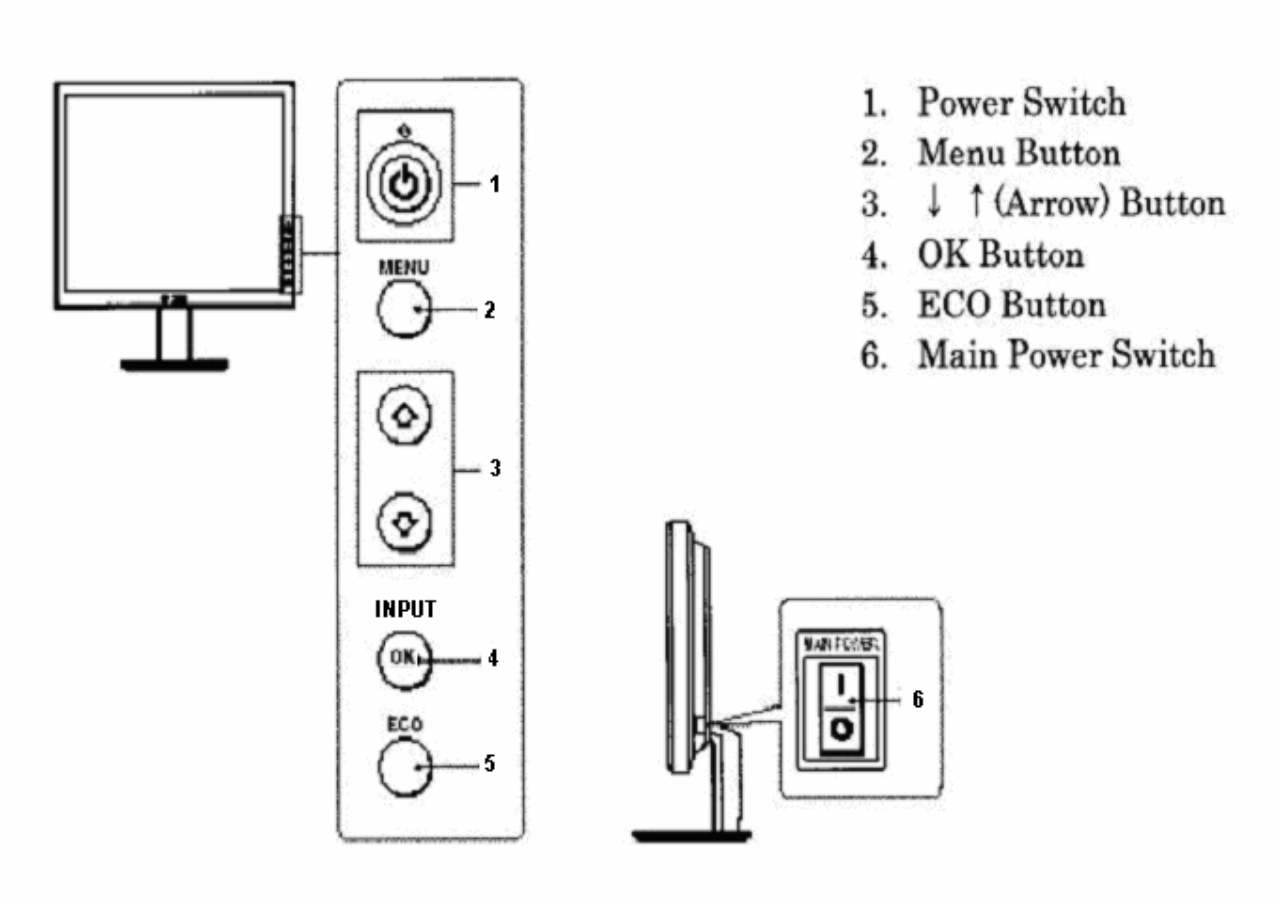
The indication of LED:

Green — Normal On or Out of range.

Amber — Stand-By or Suspend.

Red — Power Off

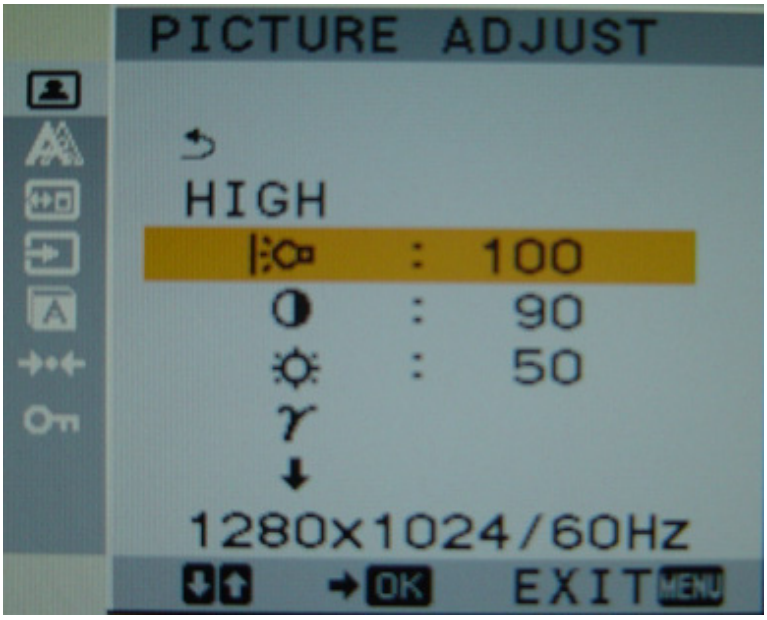
Key control:



3.3 Common adjustment

NO	Icon	Tag	Description
1		Backlight	Adjust the brightness of the backlight
2		Contrast	Adjust the picture contrast
3		Brightness	Adjust the picture brightness (black level)
4		Screen	Adjust the picture's sharpness or its centering
5		Color	Adjust the color temperature of the picture
6	γ	Gamma	Change the picture's color shade settings
7		Menu position	Change the on screen menu position
8		Language	Chance the language used on menus or messages
9		Reset	Reset the adjustments to the default settings
10		Menu lock	Lock the control of buttons to prevent accidental adjustments or resetting

Adjustment steps of each menu



Note

The backlight cannot be adjusted when the ECO mode is set to HIGH, MIDDLE, or LOW.

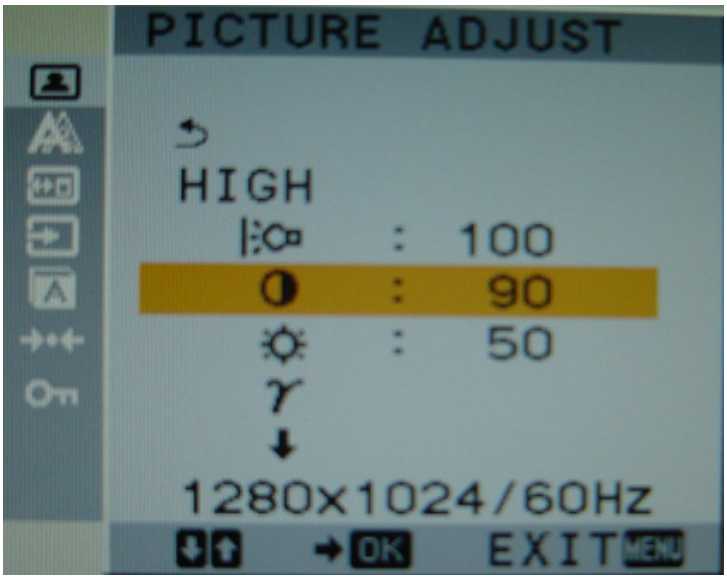
1 Press the MENU button.

The main menu appears on the screen.

2 Press the ↓/↑ buttons to select ☼ (BACKLIGHT) and press the OK button.

The BACKLIGHT menu appears on the screen.

3 Press the ↓/↑ buttons to adjust the light level and press the OK button.



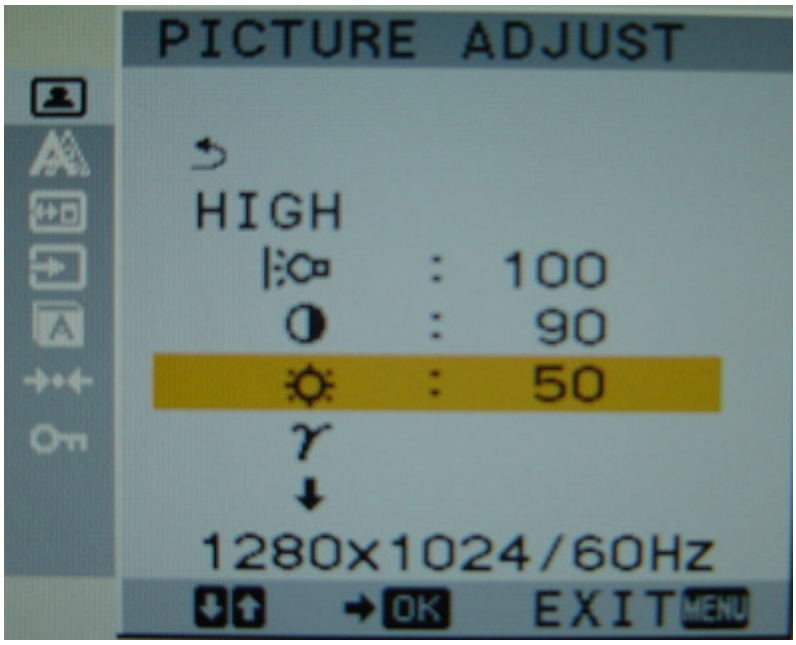
Note

The contrast cannot be adjusted when the ECO mode is set to HIGH, MIDDLE, or LOW.

1 **Press the MENU button.**
The main menu appears on the screen.

2 **Press the ↓/↑ buttons to select ◑ (CONTRAST) and press the OK button.**
The CONTRAST menu appears on the screen.

3 **Press the ↓/↑ buttons to adjust the contrast and press the OK button.**



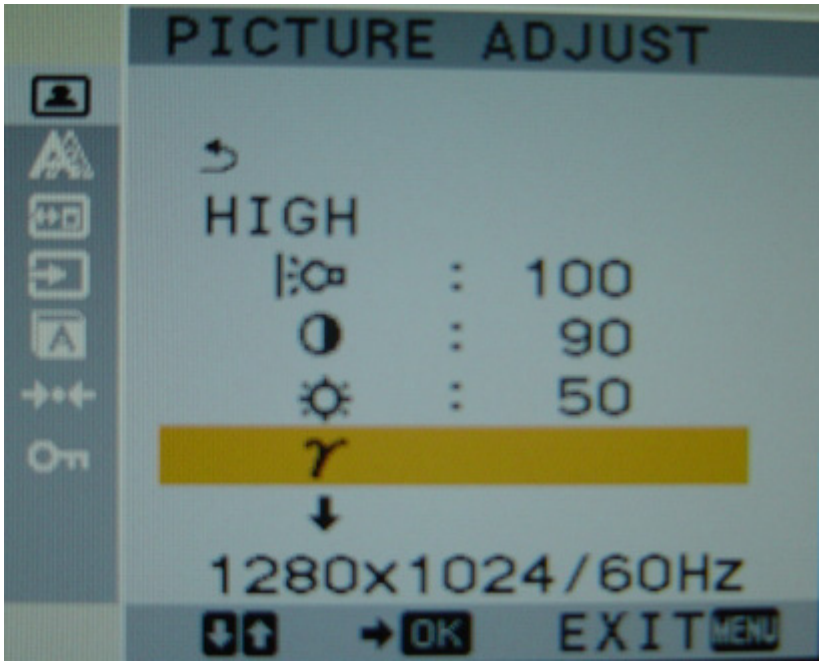
Note

The brightness cannot be adjusted when the ECO mode is set to HIGH, MIDDLE, or LOW.

1 **Press the MENU button.**
The main menu appears on the screen.

2 **Press the ↓/↑ buttons to select ☼ (BRIGHTNESS) and press the OK button.**
The BRIGHTNESS menu appears on the screen.

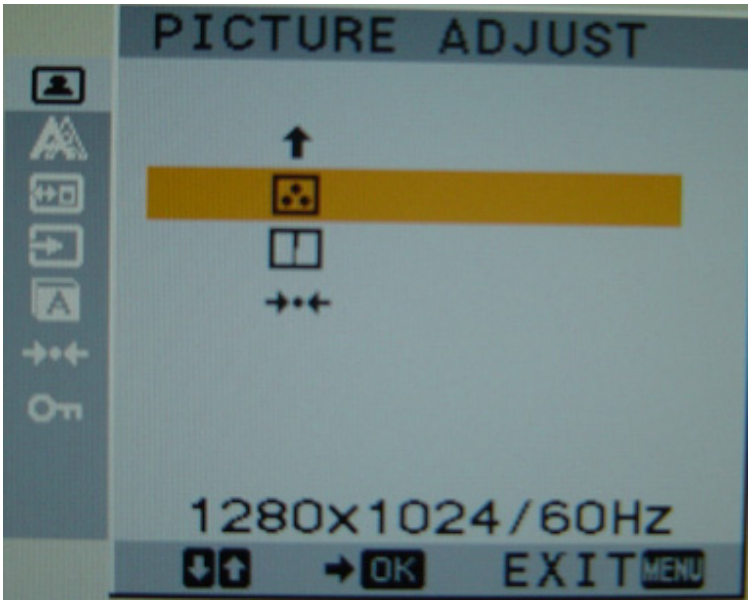
3 **Press the ↓/↑ buttons to adjust the brightness and press the OK button.**

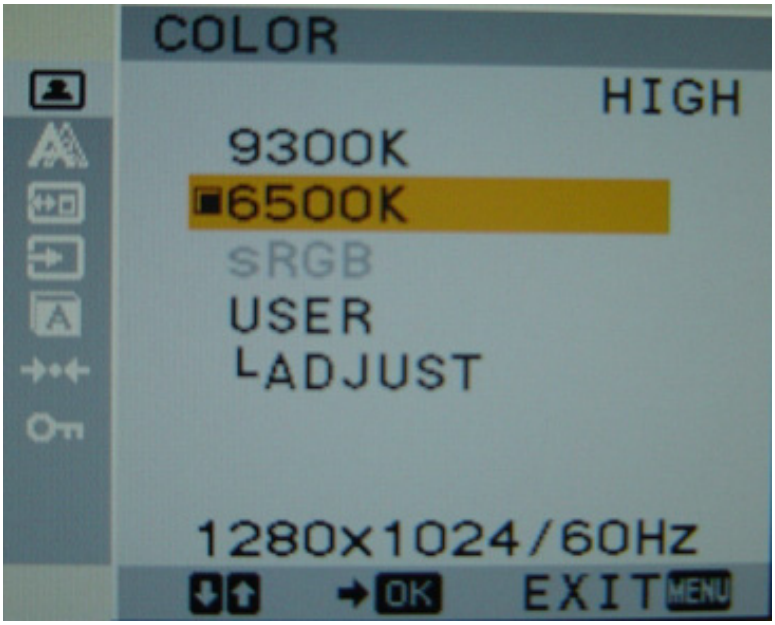


1 **Press the MENU button.**
The main menu appears on the screen.

2 **Press the ↓/↑ buttons to select γ (GAMMA) and press the OK button.**
The GAMMA menu appears on the screen.

3 **Press the ↓/↑ buttons to select the desired mode and press the OK button.**

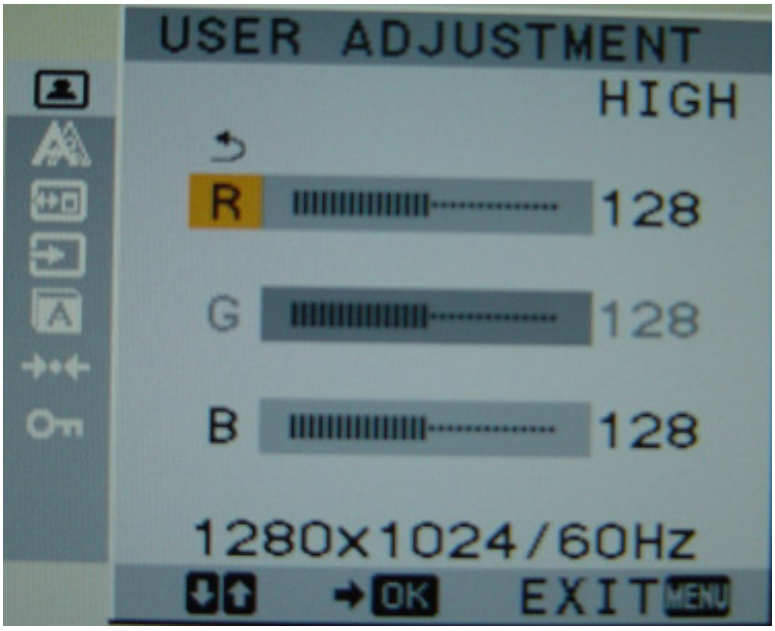




1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select (COLOR) and press the OK button.
The COLOR menu appears on the screen.

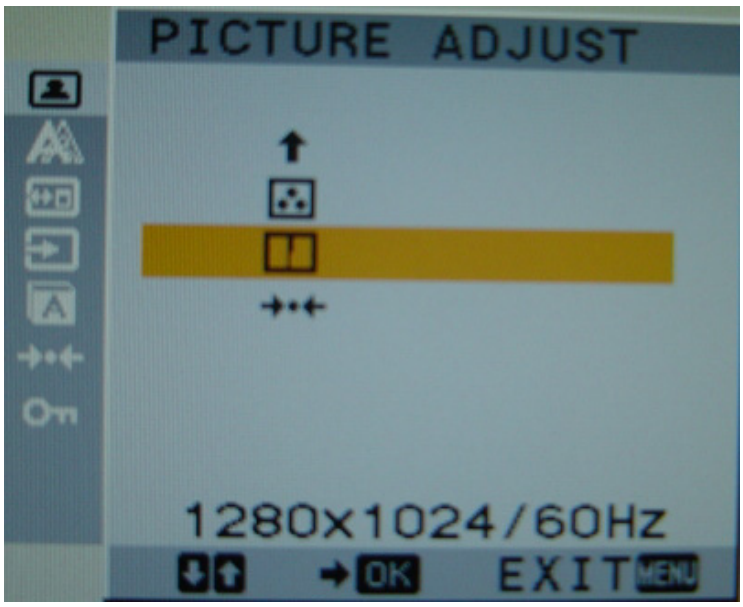
3 Press the ↓/↑ buttons to select "ADJUST" and press the OK button.
The fine tuning menu for color temperature appears on the screen.



4 **Press the ↓/↑ buttons to select R (Red) or B (Blue) and press the OK button. Then press the ↓/↑ buttons to adjust the color temperature and press the OK button.**

Since this adjustment changes the color temperature by increasing or decreasing the R and B components with respect to G (green), the G component is fixed.

5 **Press the ↓/↑ buttons to select ⮌, then press the OK button.**



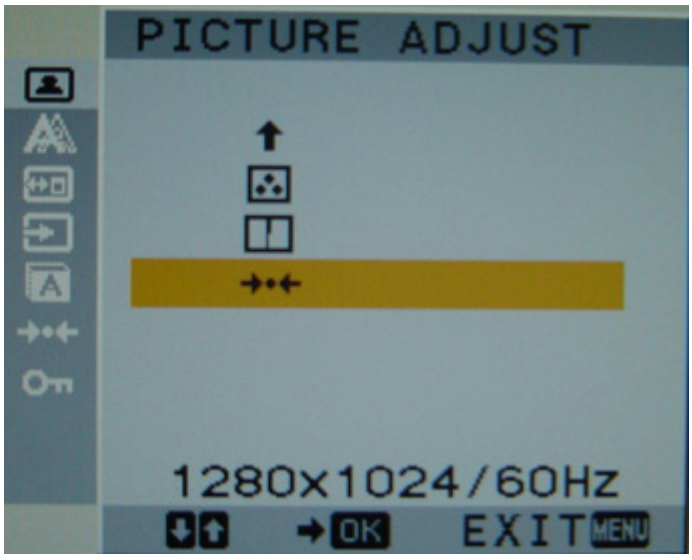
1 **Press the MENU button.**

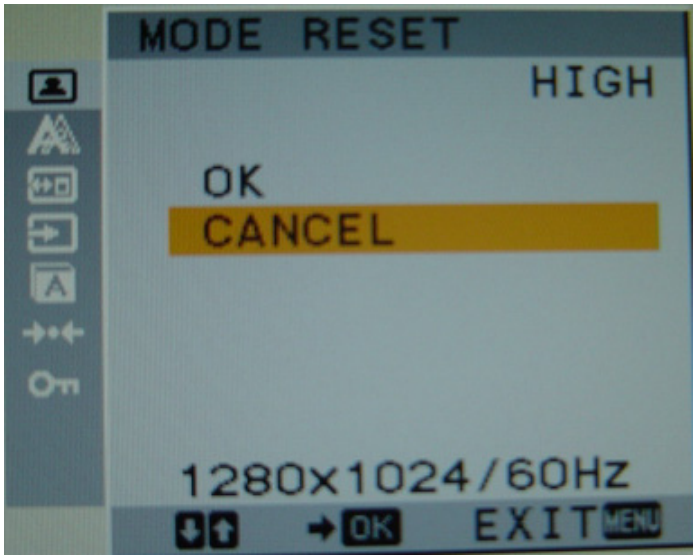
The main menu appears on the screen.

2 **Press the ↓/↑ buttons to select ◫ (SHAR PNESS) and press the OK button.**

The SHARPNESS menu appears on the screen.

3 **Press the ↓/↑ buttons to select the desired mode and press the OK button.**



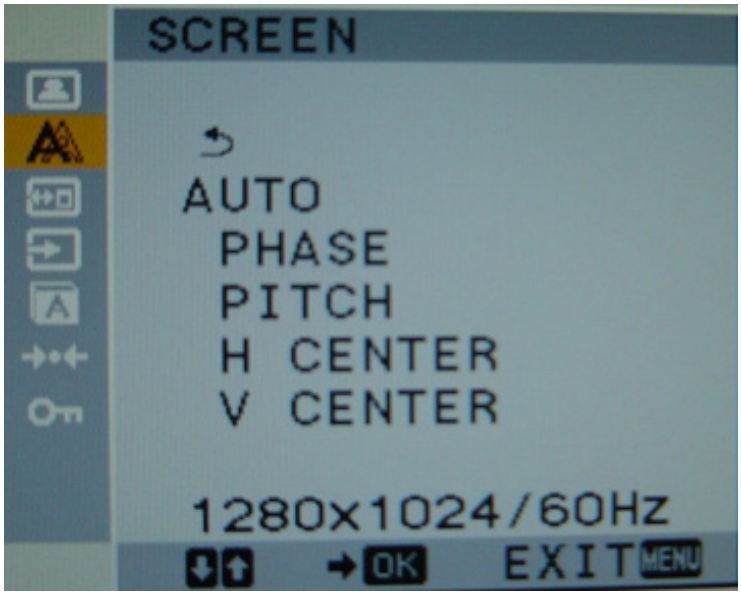


1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select ⇢•⇠ (MODE RESET) and press the OK button.
The MODE RESET menu appears on the screen.

3 Press the ↓/↑ buttons to select the desired mode and press the OK button.

- OK: To reset all of the adjustment data to the default settings. Note that the A (LANGUAGE) setting is not reset by this method.
- CANCEL:To cancel resetting and return to the menu screen.

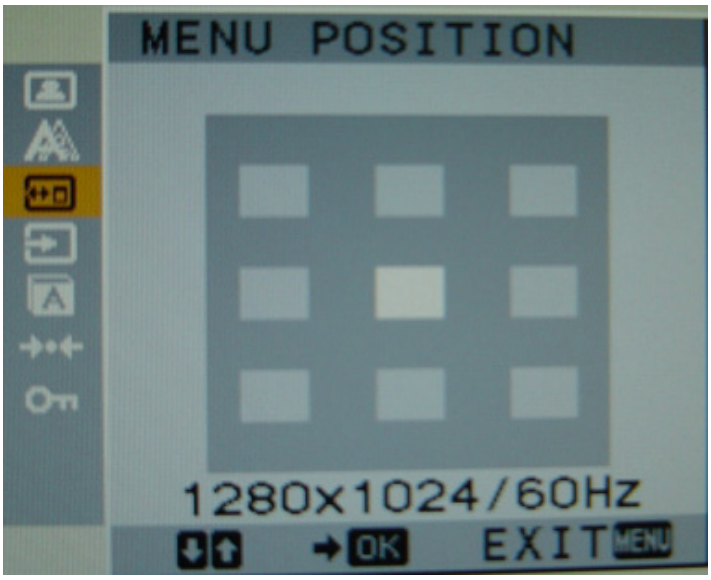


1 **Press the MENU button.**
The main menu appears on the screen.

2 **Press the ↓/↑ buttons to select (SCREEN) and press the OK button.**
The SCREEN menu appears on the screen.

3 **Press the ↓/↑ buttons to select AUTO and press the OK button.**
Make the appropriate adjustments of the screen's phase, pitch and horizontal/vertical position for the current input signal and store them.

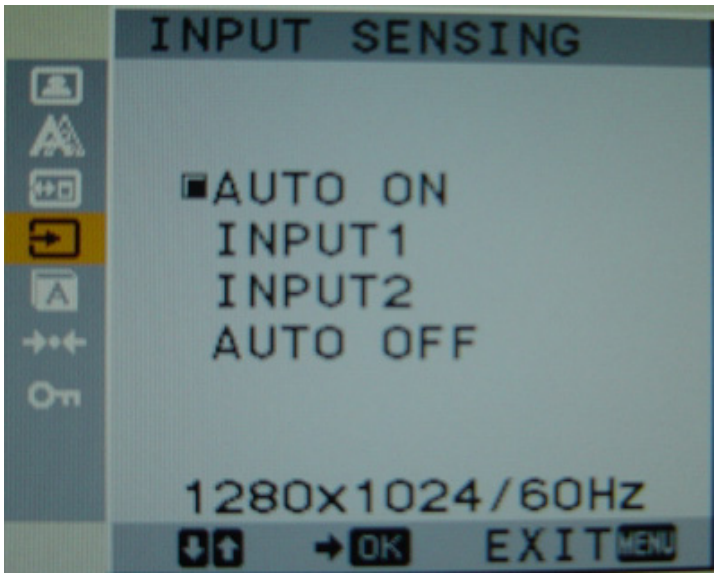
4 **Press the ↓/↑ buttons to select ⮌ and press the OK button.**
Return to the menu screen.



1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select (MENU POSITION) and press the OK button.
The MENU POSITION menu appears on the screen.

3 Press the ↓/↑ buttons to select the desired position and press the OK button.
You can choose one of 9 positions where the menu will appear.



1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select (INPUT SENSING) and press the OK button.
The INPUT SENSING menu appears on the screen.

3 Press the ↓/↑ buttons to select the desired mode and press the OK button.

1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select (LANGUAGE) and press the OK button.
The LANGUAGE menu appears on the screen.

3 Press the ↓/↑ buttons to select a language and press the OK button.

- ENGLISH
- FRANÇAIS: French
- DEUTSCH: German
- ESPAÑOL: Spanish
- ITALIANO: Italian
- NEDERLANDS: Dutch
- SVENSKA: Swedish
- РУССКИЙ: Russian
- 日本語: Japanese
- 中文: Chinese

1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select ⇢⇠ (RESET) and press the OK button.
The RESET menu appears on the screen.

3 Press the ↓/↑ buttons to select the desired mode and press the OK button.

- OK: To reset all of the adjustment data to the default settings. Note that the A (LANGUAGE) setting is not reset by this method.
- CANCEL:To cancel resetting and return to the menu screen.

1 Press the MENU button.
The main menu appears on the screen.

2 Press the ↓/↑ buttons to select (MENU LOCK) and press the OK button.
The MENU LOCK menu appears on the screen.

3 Press the ↓/↑ buttons to select ON or OFF and press the OK button.

- ON: Only the ⏻ (power) switch will operate. If you attempt any other operation, the (MENU LOCK) icon appears on the screen.
- OFF: Set (MENU LOCK) to off. If (MENU LOCK) has been set to ON, when you press the MENU button, (MENU LOCK) is automatically selected.

3.4 Adjustment

1. Procedures of how to go to service mode.

1) Enter the service mode of this unit by turning on the power while pressing and holding the "MENU" key simultaneously.

2) Press "MENU" key----MAINTAIN.

3) Press "OK" key to enter the service menu.

4) Select the desired function.

5) Press the "MENU" key to exit OSD.

6) Turn off the power and then turn it on again. The monitor then enters the normal mode.To enter the service again, repeat the proceduredescribed above.

Note

W/B readjustment is required after the panel, board and microcomputer are replaced. However, be sure to perform aging for more than 30 minutes for RGB reset before W/B adjustment.

2. Setup

1) Prepare timing and pattern data for a signal generator according to the Sony timing specifications.

2) Connect a monitor video cable to the signal generator.

3) Put Color Analyzer(ex. CA-110) 50cm away from the monitor, specify it vertically in the center of the display, and adjust the focus to the optimum level using an eyepiece.

4) Put the monitor and Color Analyzer(ex. CA-110) in a light-shielded room.

5) Set up [SERVICE MODE] of the monitor.

3. Operation

Data is manually set to improve the productivity. The brightness, contrast, and backlight are set to 50, 70 and 100 respectively. After that, the default data of the color temperature to be adjusted is set.

4. Warm up time

Warm up for 30 minutes before performing any adjustment.

5. Adjustment for White Balance

a. Display SMPTE at SXGA/60Hz(Input level 0.73V).

b. Set up [SERVICE MODE].

c. Click "CLEAR EEPROM" and AC Power off.

d. Set up [SERVICE MODE] of the monitor again.

e. Click "WHITE BALANCE" and then select "AUTO".

f. Prepare timing and full black pattern.

g. Click "OFFSET CALIBRATION".

h. After offset calibration is completed prepare full white pattern. i. Click " GAIN CALIBRATION".

6. 9300K color adjustment

a. Select "9300K" in "COLOR TEMP" and enter.

b. Use a 100% IRE white video field in the primary mode.

c. Adjust "CONTRAST " to secure the color temperature.

d. Press "MENU" key to exit adjust mode.

7. 6500K color adjustment

a. Select "6500K" in "COLOR TEMP" and enter.

b. Repeat the adjustment procedure as steps b to d at 9300K.

8. SRGB color adjustment

a. Select "SRGB" in "COLOR TEMP" and enter.

b. Repeat the adjustment procedure as steps b to d at 9300K.

3.5 Service OSD

To enter service OSD menu.

1). Turn off the power switch button.

2). Press volume down,and then power key.

3). Shows the service OSD menu. That menu is located in down side of main menu.

4). The service OSD menu contains additional menus as described below.

a). ADC CALBRATION : Adjust the offset voltage and gain value in PC mode.

b). VIDEO CALBRATION : Adjust the offset voltage and gain value in video input.

c). COLOR TEMP : Adjust R/G/B Color values of contrast and brightness in 9300k, 6500k,User color mode.

d). AGING : Select aging mode. (on/off)

e). CLEAR ETI : Initilize the used time of MFT

f). CLEAR EEPROM : Initilize the EDID DATA at DDC2B EEPROM is saved system memory.

Process : Press ok button, and then power key.

g). DEFAULT TIMING 1 : Select the resolution timing of the signal.

Menu is 1152 X 864(VESA standard timing) 1152 x 870 (MAC computer timing).

h). DEFAULT TIMIN G2 : Select the resolution timing of the signal.

Menu is 1080 i (video timing) and 1035i.

l). LIGHT SENSOR : When ECO Auto mode,the BACKLIGHT is changed as Light sensor input

X :Light Sensor input, Y : Backlight Value setting,

j). VCTi DEBUG : VCTi can be setted on DEBUG on/off, When you want to controll anything.

4. Disassembly flow chart

4.1 Disassembly steps

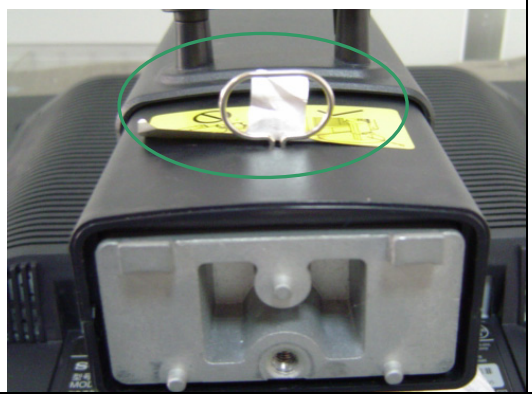
Notices

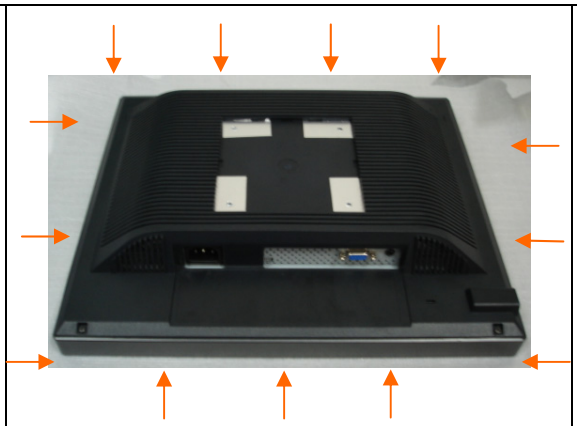
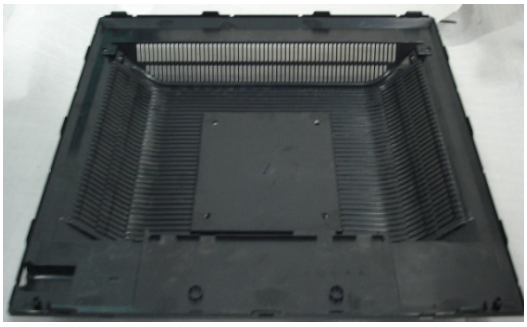
1. Lay the monitor on a steady table with a piece of clean cloth mat under it for preventing scratching the panel.
2. Be careful when open the bezel and rear cover with the tool that mentioned above for preventing mangling them.
3. Put away the screws for preventing rolling on the panel and scratching it.
4. Be careful and don't scratch the connection line when open the shield.
5. Press the interface with a hand and pull or insert the connection line with the other.

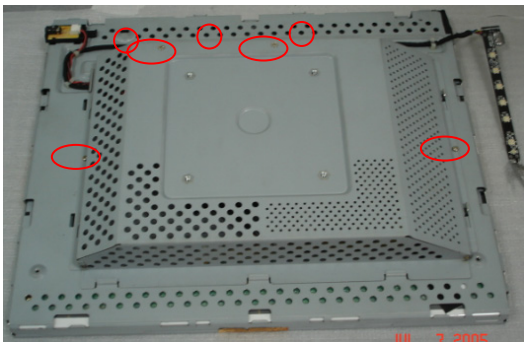
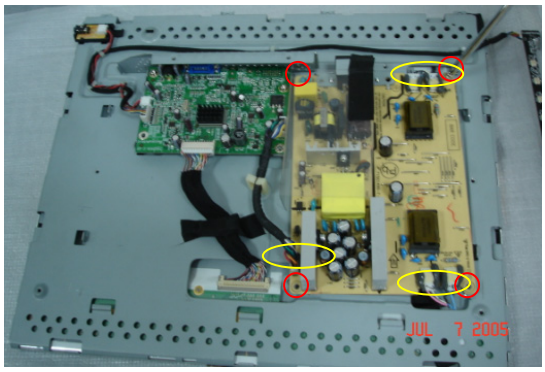
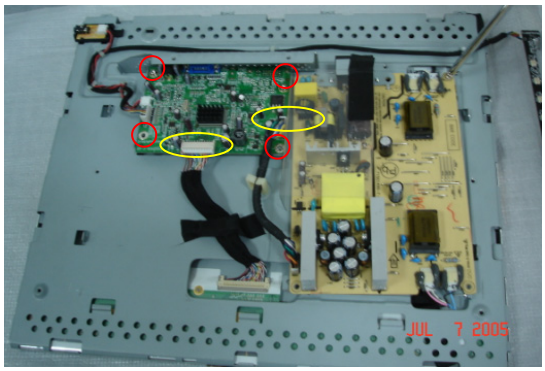
Flow Chart

Step1	Figure	Description
Prepare		Put the monitor on a clean soft cloth with panel facing to the table.

Step2	Figure	Description
Discharge the base		

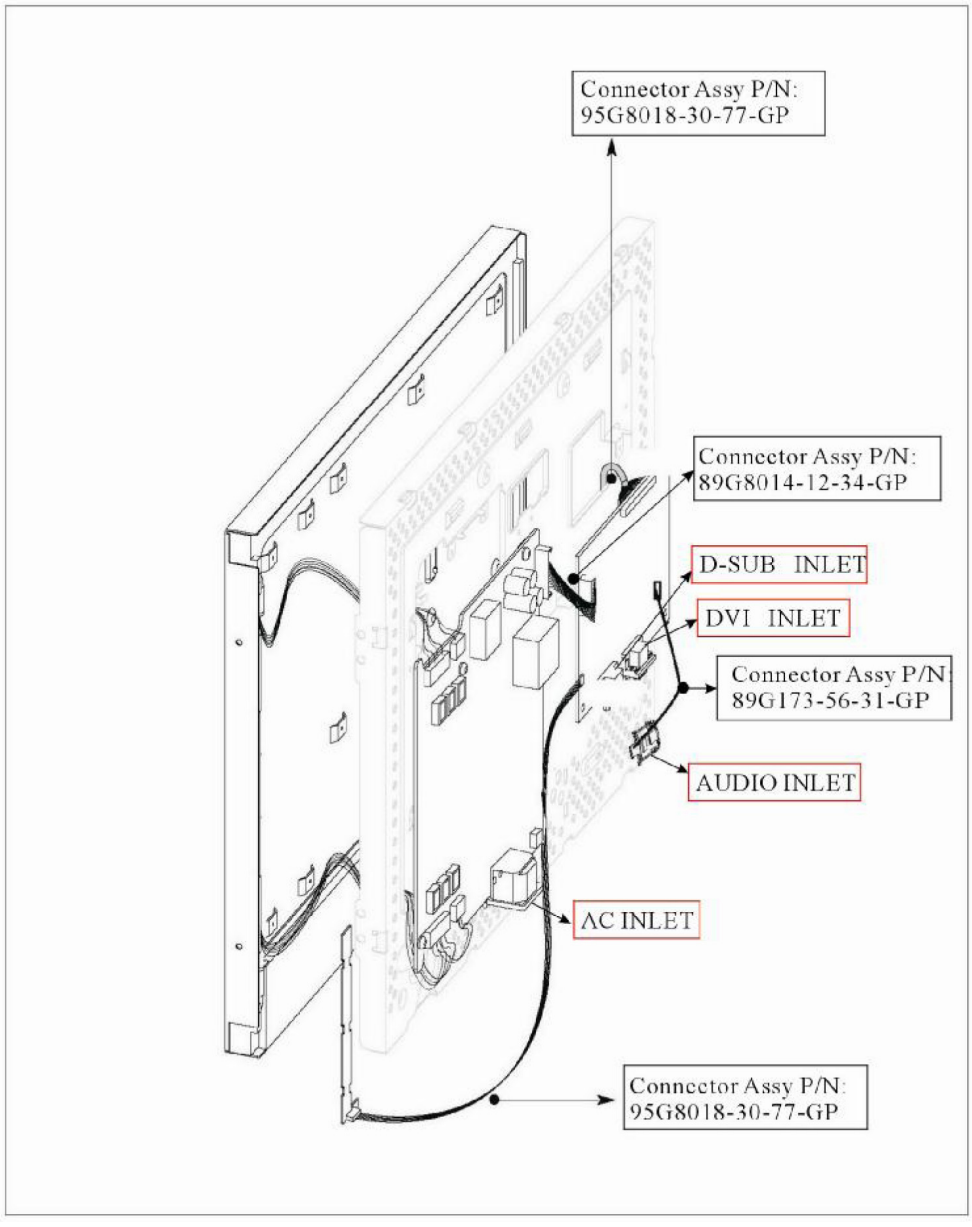
Wring the screw		1, Wring the five screws in the bracket marked in red. 2, Take the screw and stand away 3. Steel line marked in green is to rise or lower the stand.
		

<table>
<tr>
<td rowspan="3">Discharge the bezel</td>
<td>  </td>
<td rowspan="3">1, insert a hard plastic chip in the gap between bezel and rear cover at up-left corner
2, Hold the monitor with a hand and press the hard plastic chip with the other, then move it in the forward hour hand.
3, Pay attention to some hooks, then open it with little force till the bezel and rear cover separated.
4, The position marked with arrows exists some hooks.
5, After bezel and rear cover separated, the bezel is shown in the figure down-left.</td>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td> </td>
</tr>
<tr>
<td>Discharge the rear cover/shield</td>
<td>  </td>
<td>1. Wring down the screw in the shield, which is marked in red.</td>
</tr>
</table>

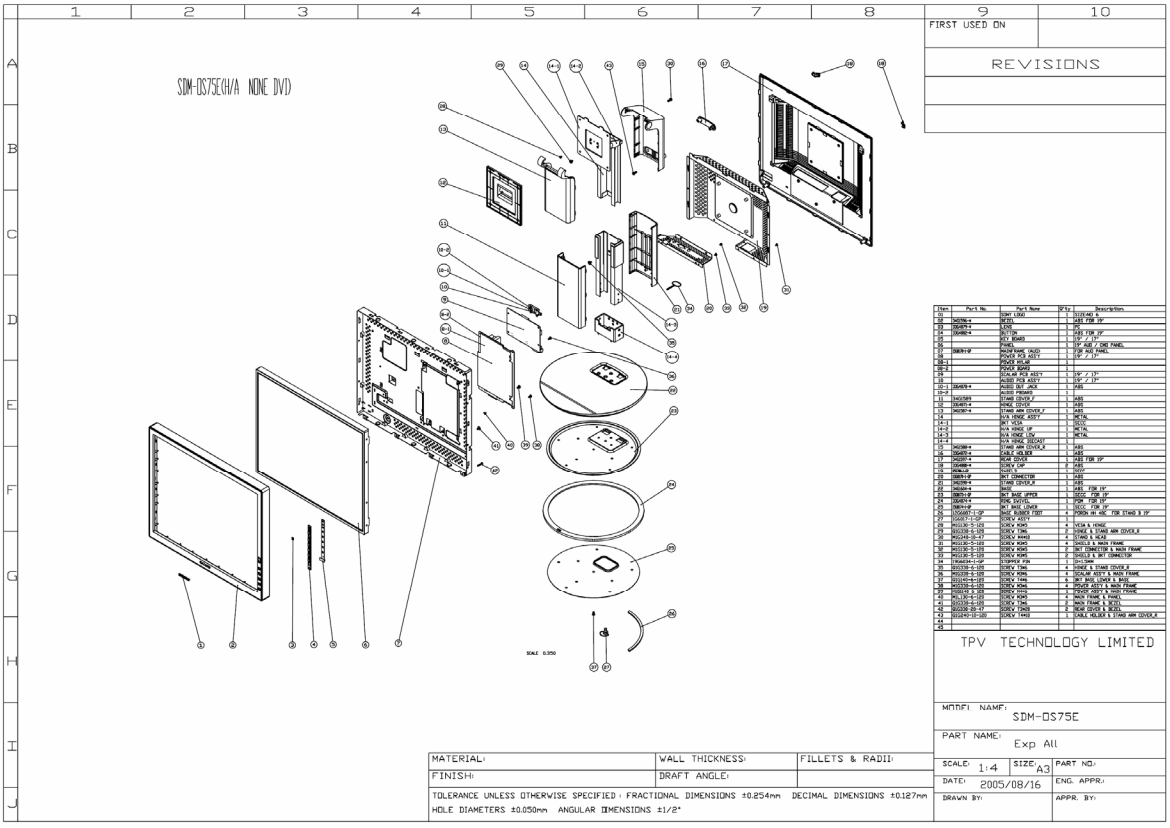
		
Discharge the power board		1,Wring down the four screws marked in red. 2, Pull out the lamp and main board connection lines marked in yellow
Discharge the main board		1, Wring the four screws marked with red. 2, Pull out the other connection lines marked in yellow
Discharge the panel	 	Wring down the four screws marked in red.

		The panel is disassembled absolutely.

4.2 WIRING DIAGRAM

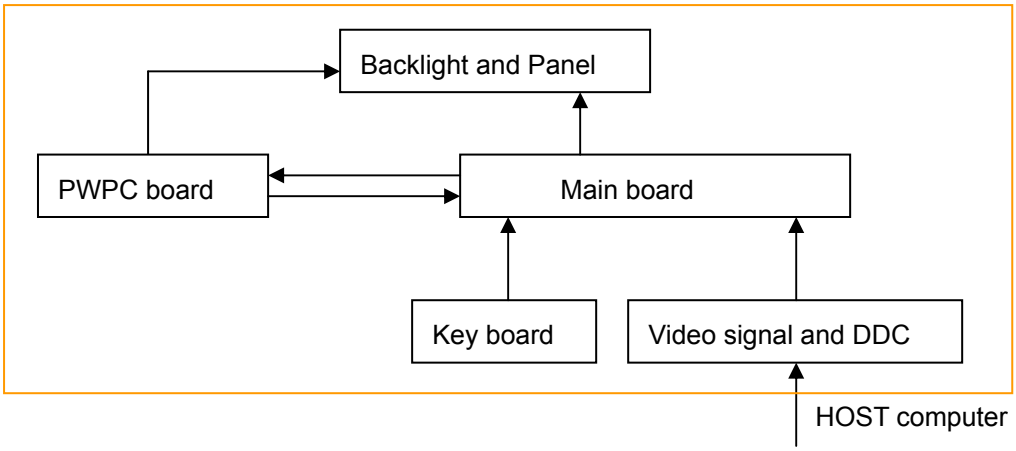


4.3 Monitor Exploded View



5. Circuit principle analysis

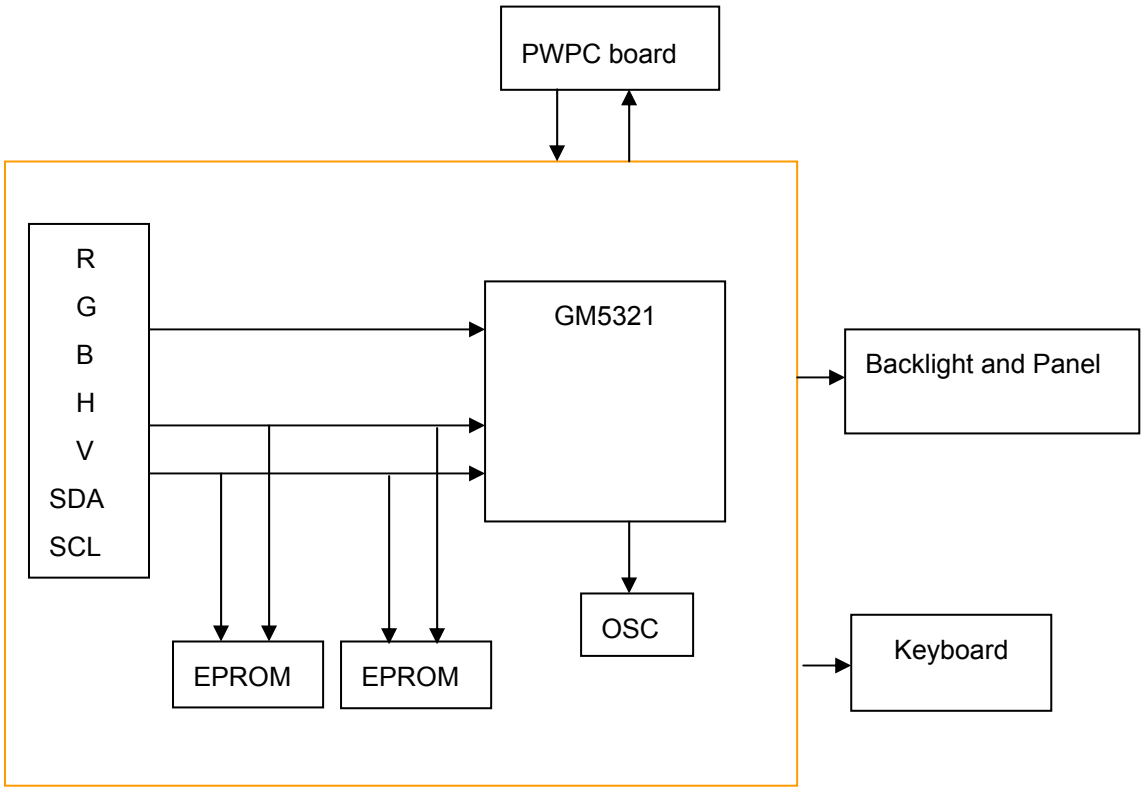
The LCD Monitor contains a main board, an inverter/power board, keyboard which house the flat panel control logic, brightness control logic and DDC.



5.1 Main board

5.1.1 Block diagram

The main board contains panel control logic, brightness control logic, DDC and DC convert DC circuit and so on.



5.1.2 Introduction of IC

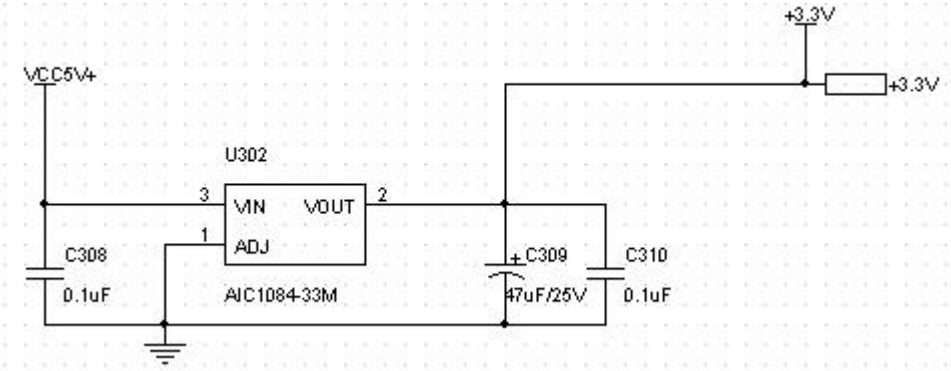
GM5321: integrate ADC, OSD, SCALER, MCU, LVDS, convert analog RGB into digital and zoom and shrink scaling output to LCD panel.

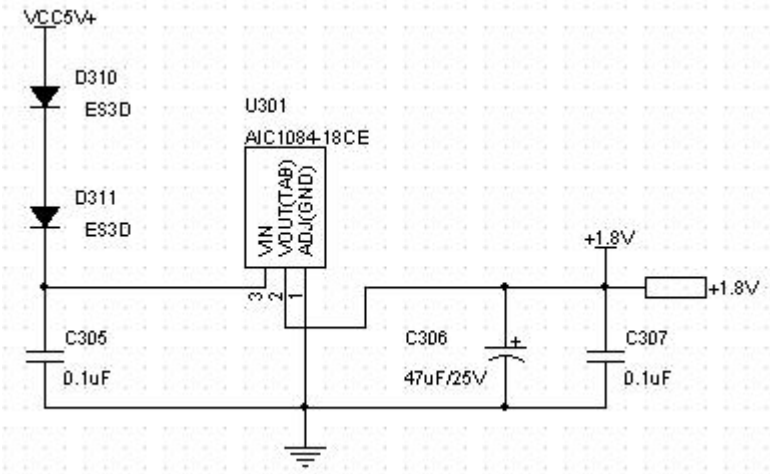
AIC1084-33M: DC power convert, used to 5v convert 3.3v.

AIC1084-18CE: DC power convert, used to 5v convert 1.8v.

5.1.3 Introduction of important function

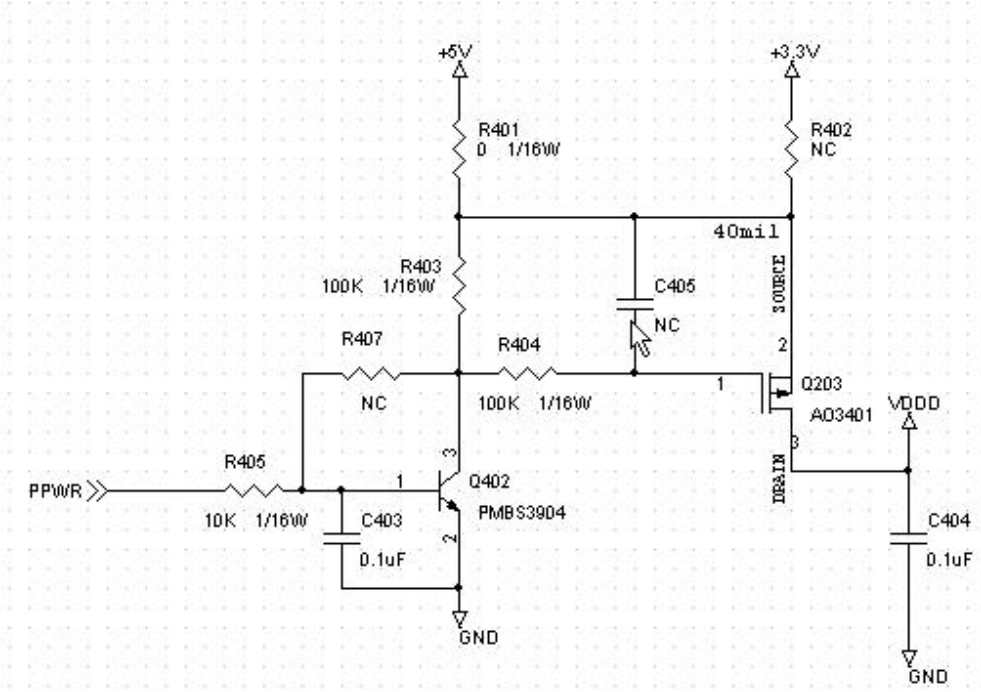
DC TO DC: The required power supply are different for each chip, and the voltage of 12v, 5v offered by PWPC can't reach the requirement, so we deal with this problem by means of two pieces of DC TO DC chips (AIC1084-18CM, AIC1084-33CM). The circuit diagrams are as follows:





Panel Control Circuit:

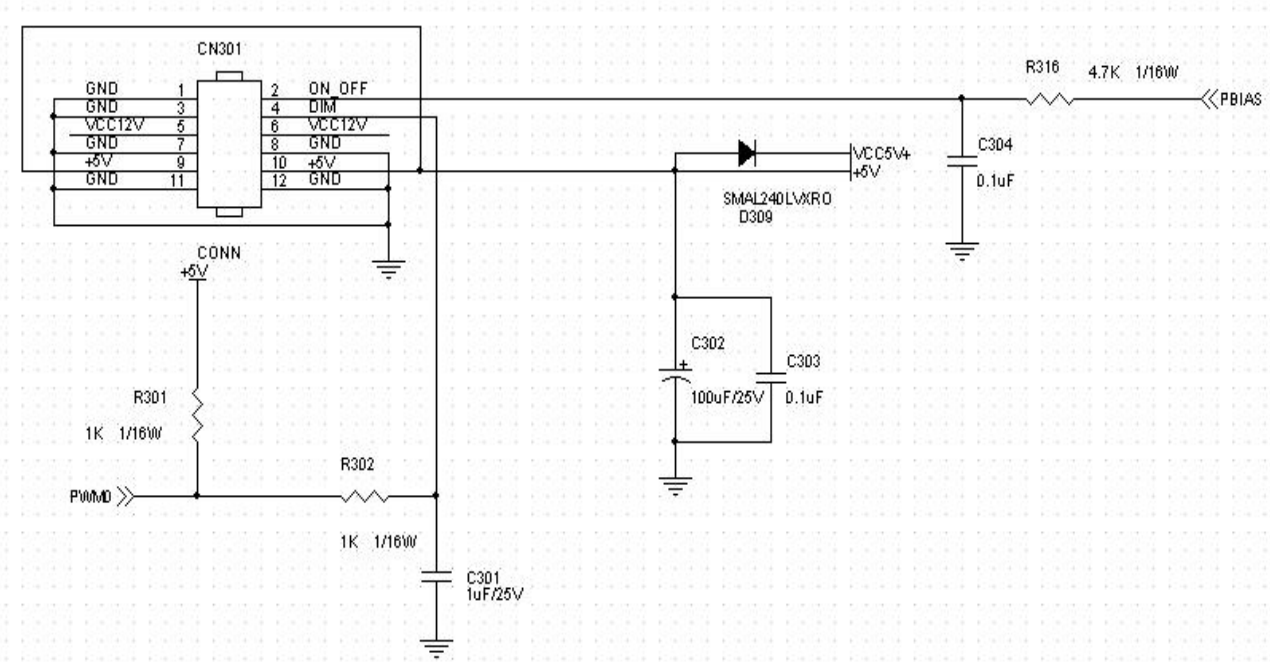
The high level output from PIN67 of U201 makes Q402 break through, Q203 break through and offer 5V to panel when work well. The output is low level when it's saving energy state and Q402 break off, Q203 break off, so the panel doesn't work.

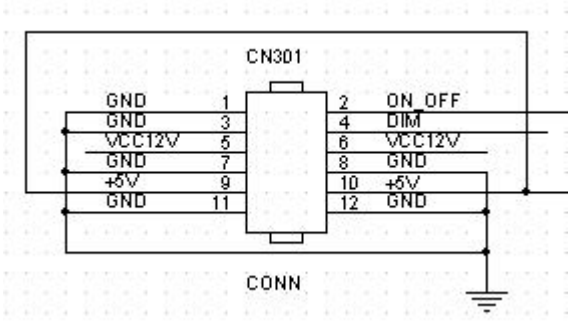


On/Off /Brightness control circuit:

ON/OFF control: When it works well, the high level output form PIN 68 of U201, and low in saving energy state.

Brightness control: When it works well, the output PWM pulse from PIN98 of U201 adjusts the brightness, the bigger the duty, and the higher the brightness.





Interface of main board and PWPC board

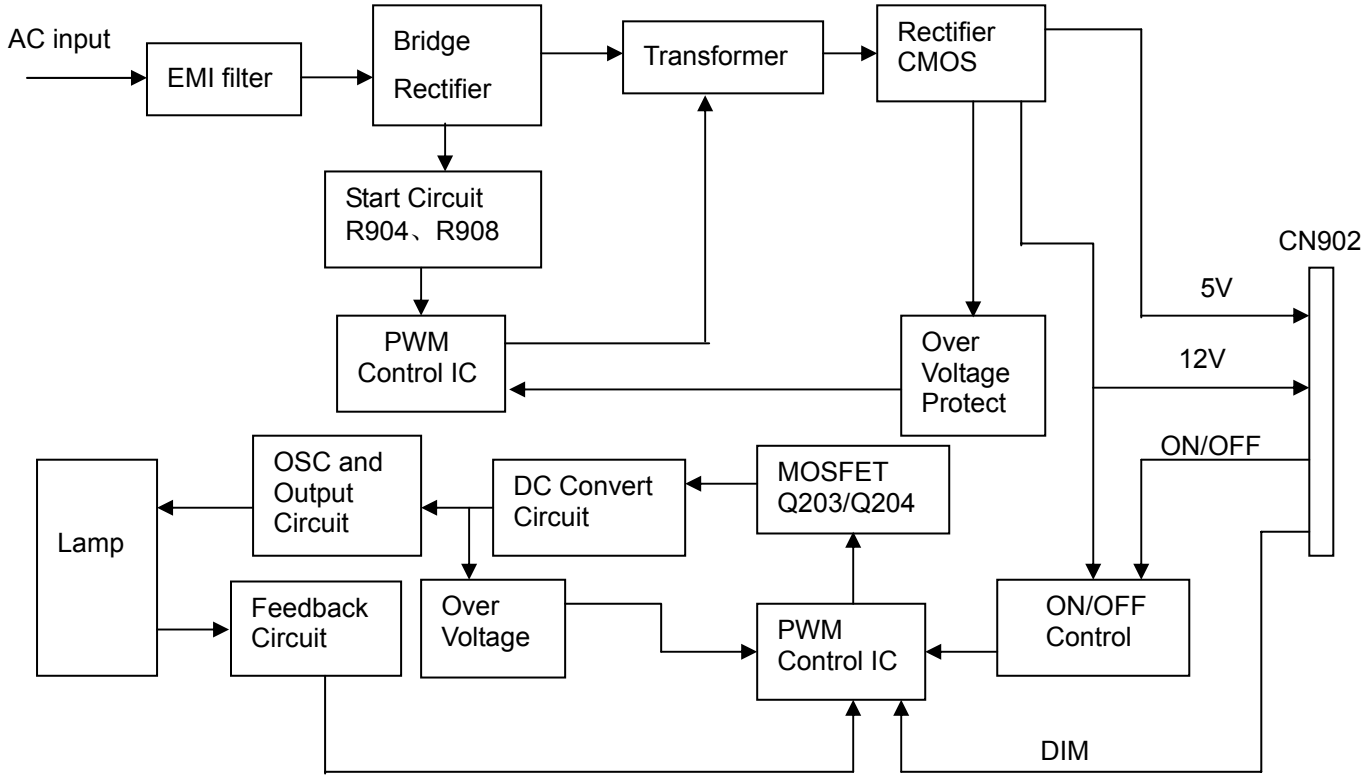
5.2 PWPC board

5.2.1 Block diagram

PWPC board combines to adapter and inverter, this design has the merits in predigesting constructions, reducing cost and improving product's capability.

Adapter which commonly consists of bridge rectifier and filter, start circuit, PWM control circuit (TOP247Y), protection circuits and convert to 12V, 5V DC voltage by input 90V-240V AC voltage that provide power supply for each chips in the main board and inverter.

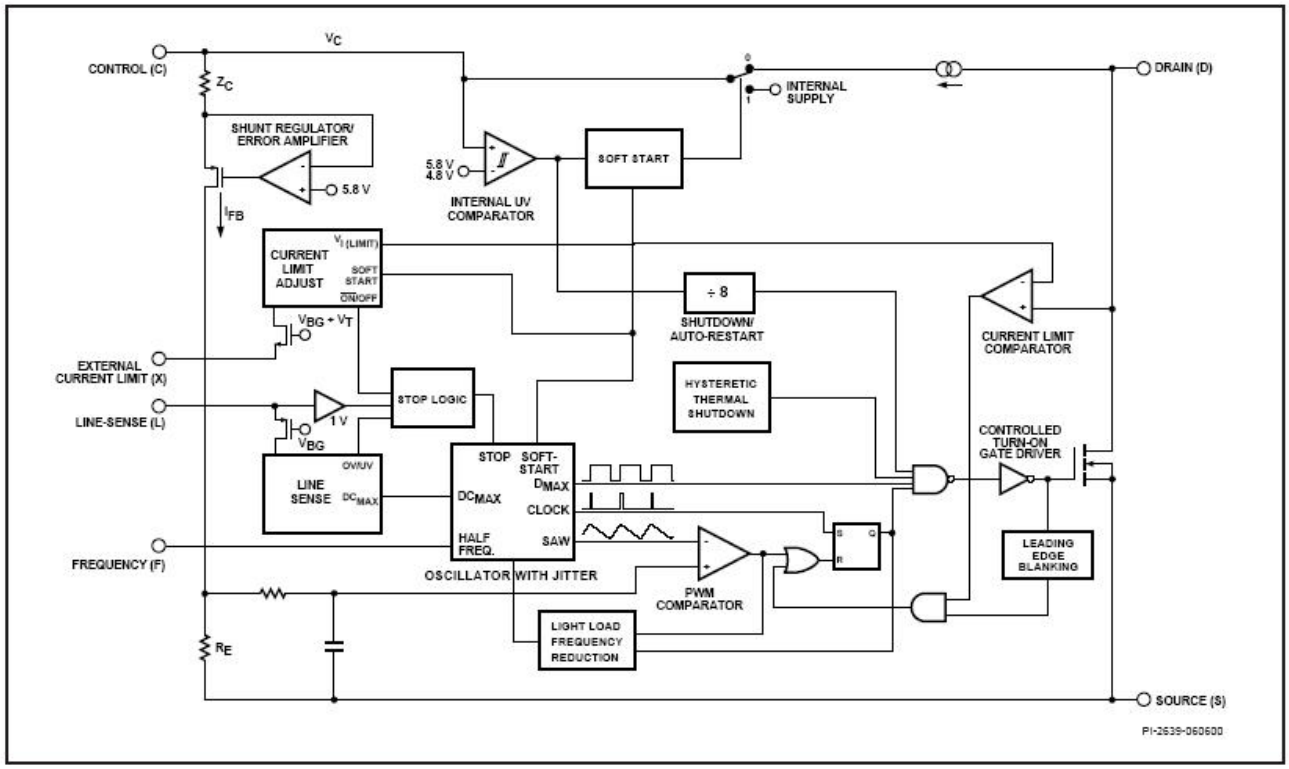
Inverter is DC TO AC circuit. It changes the 12v DC of power supply to about 600-800v AC that drives the backlight. It mostly consists of starting circuit, PWM controller, DC changing circuit, LC surging circuit, output circuit and protection circuit etc.



5.2.2 Introduction of IC

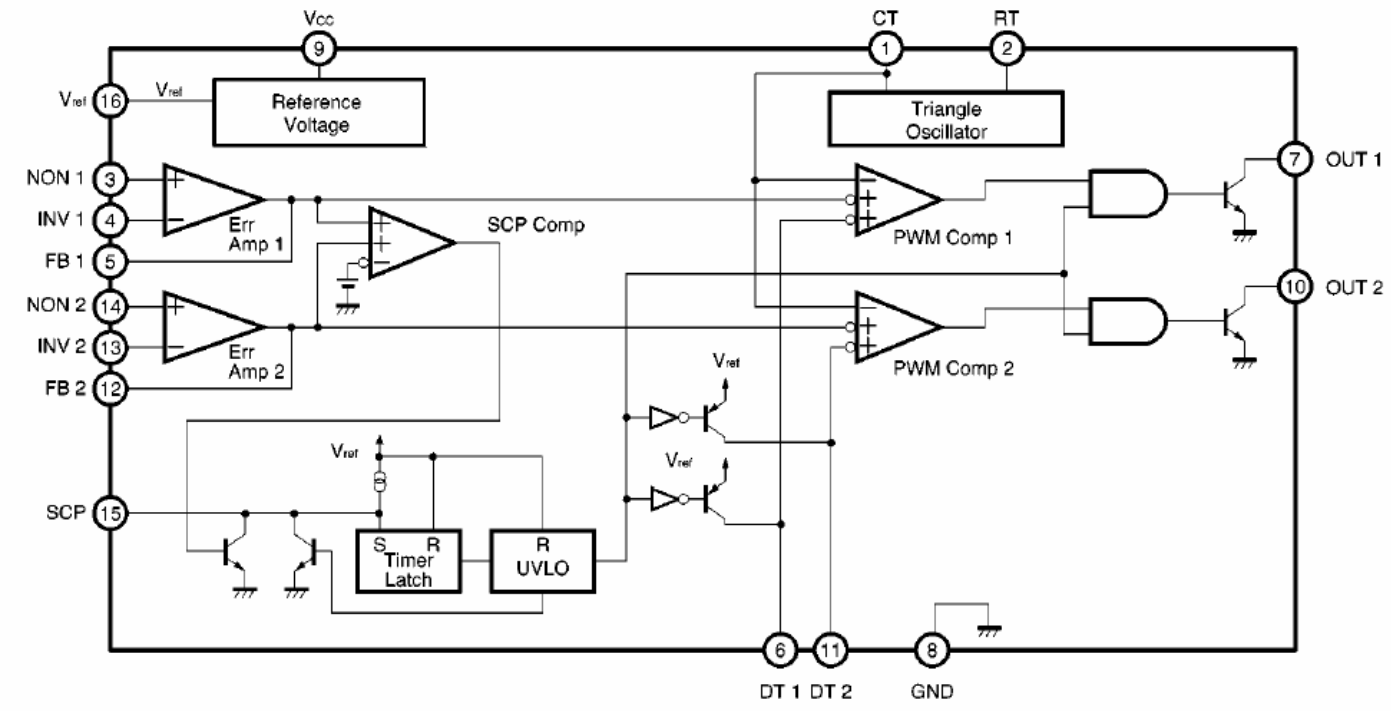
TOP247Y: It cost effectively integrating the high voltage power MOSFET, PWM control, fault protection and other control circuitry onto a single CMOS chip. The function of each pin and the inside circuit diagram are as follows:

Pin	Symbol	Functional Description
1	C	Control Pin, Error amplifier and feedback current input pin for duty cycle control
2	L	Line-Sense Pin, Input pin for OV, UV, line feed forward with DCMAX reduction, remote ON/OFF and synchronization
3	X	External Current Limit Pin, Input pin for external current limit adjustment, remote ON/OFF and synchronization
4	S	Source Pin, Output MOSFET source connection for high voltage power return
5	F	Frequency Pin, Input pin for selecting switching frequency
7	D	Drain Pin, High voltage power MOSFET drain output



BA9741F: PWM control, voltage range for working: 3.6~35V, Has such functions as short-voltage protection, Over-voltage protection, over-current protection and etc. The function of each pin and the circuit diagram inside are as follows**:**

PIN	NAME	FUNCTION	PIN	NAME	FUNCTION
1	CT	External timing capacitor	9	VCC	Power supply
2	RT	External timing resistor	10	2OUT	Output 2
3	1IN+	Positive input for error amplifier 1	11	2DTC	Output 2 dead time/soft start setting
4	1IN-	Positive input for error amplifier 2	12	2FBK	Error amplifier 2 output
5	1FBK	Error amplifier 1 output	13	2IN+	Positive input for error amplifier
6	1DTC	Output 1 dead time/soft start setting	14	2IN-	Positive input for error amplifier
7	1OUT	Output 1	15	SCP	Timing latch setting
8	GND	Ground	16	REF	Reference voltage output (2.5v)



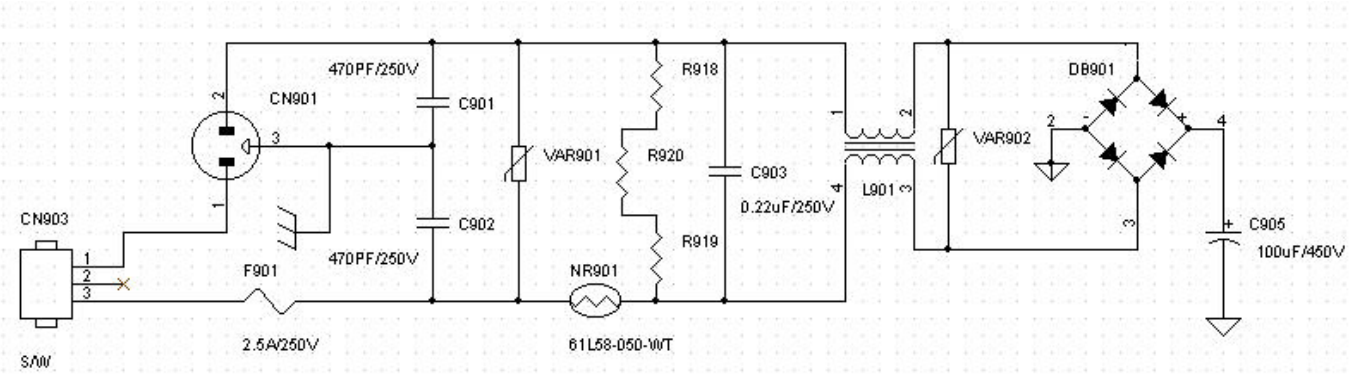
5.2.3 Introduction of important function

a. Adapter

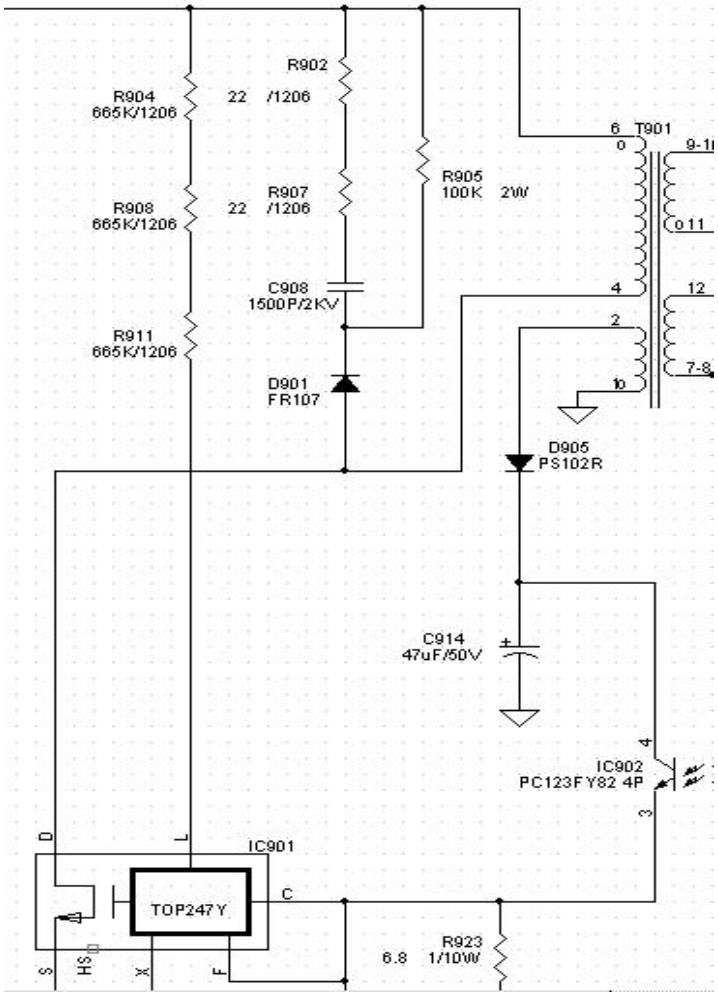
EMI filter circuit: It is common used to get rid of the disturbance existing in the electric net or coming from outside. L901 is used to reduce the symmetry disturbance and filter the high frequency noise; C901, C902 can restrain the symmetry and filter the low frequency noise; R918, R919, R920 is used for discharging the capacitance when cut off the power. NR901 is used to prevent the impulse of surge current when start the machine, which possesses minus temperature modulus.

Rectifier and filter circuit: The AC input is changed to a high DC voltage, that magnitude is the product of

1.414 to AC after it is commuted by bridge rectifier (BD901) and filtered by the capacitance (C905).

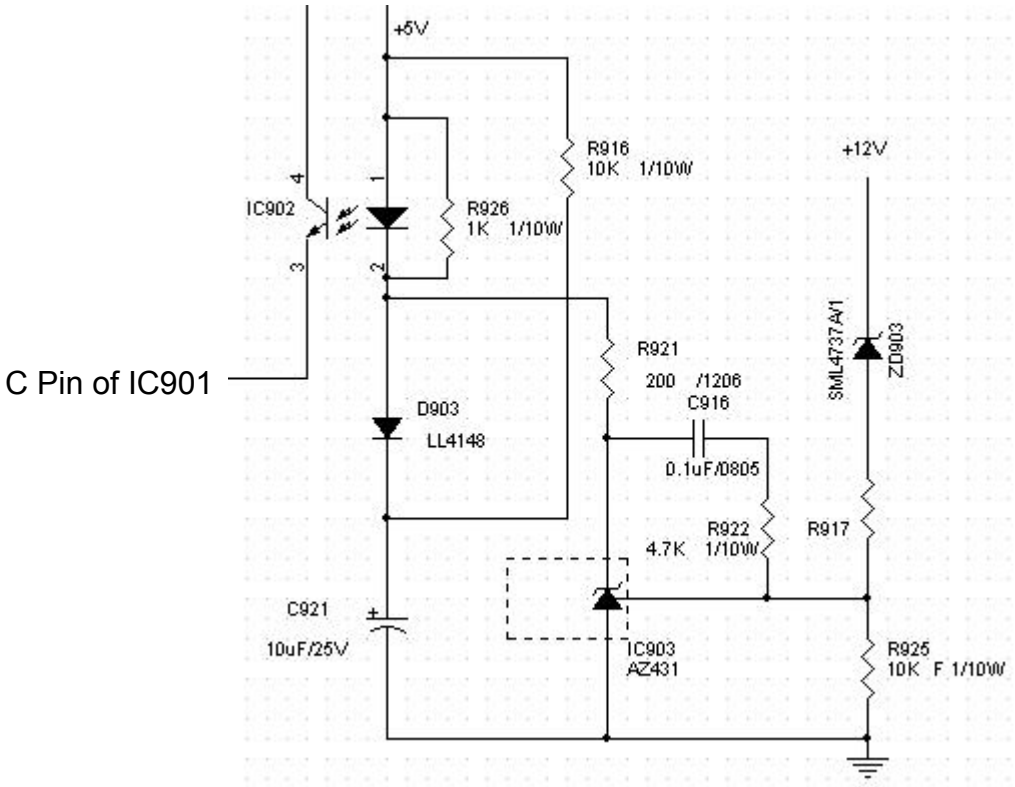


Start-up circuit: After being commuted and filtered, the high DC voltage falls down through R (R904, R908, and R911 series), the start-up carries out when the lowered voltage is supplied to L Pin of IC901 (TOP247Y). The output pulse makes T901 work. The voltage produced at the two terminals of T901 is offered to C Pin of IC901 after being commuted by D905 and filtered by C914, and then the whole start-up process is end.

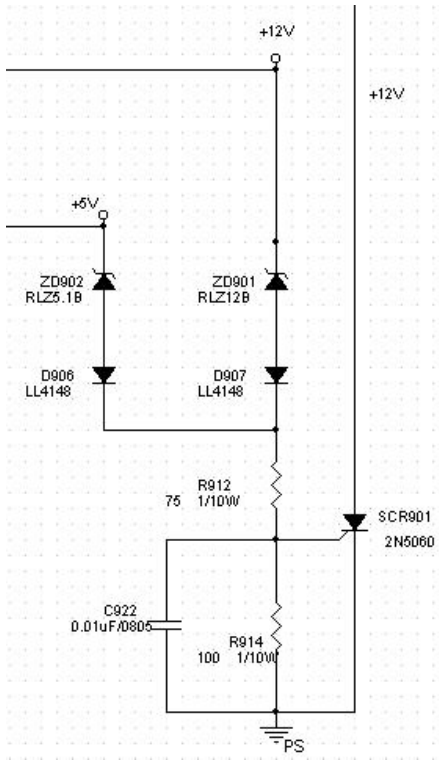


Over-voltage Protection circuit:

1. ZD903 can be broken down when12V DC voltage increases, which leads to the current increase through IC902, and voltage increase of C Pin of IC901, and then it cuts off the pulse output.

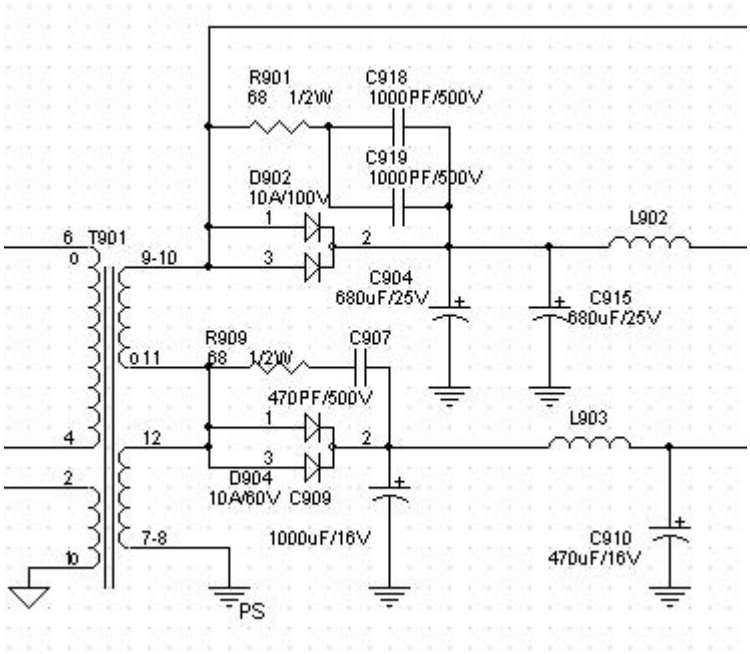


2. ZD901, ZD902 can be broken down when12V and 5V DC voltage increase, which lead to SCR901 breaks through, then 12 connected to ground and realizes over-voltage protection.



Commute and filter output circuit: When D Pin of IC901 has pulse output, which makes T901 work, while being given a low level, and there is a current in the primary coil of T901 with a voltage up terminal positive and down negative, so the secondary coil produces a reverse electromotive force. It is the stage of storing energy in the coil because D902, D904 are closed. But while being given a high

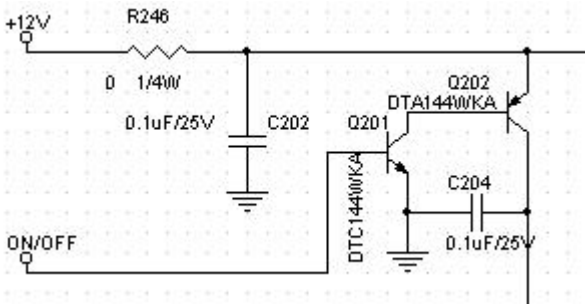
level, The primary coil produces a EMF with its down terminal positive and up negative, and the secondary coil appears a reverse EMF at the same time, then D902, D904 get through accompanied with a voltage output of 12V and 5V through C904, C909 which are used to filter. R901, C918 contained in the RC circuit is used to absorb the surge voltage produced by D902, while R909, C907 is use to absorb the surge voltage produced by D904.



b. Inverter

Input interface section: 1.12V DC input, offered by power section; 2. ON/OFF enable signal, offered by Pin 68 of U201 in the main board with its value of 0V or 5V. When OFF=0V, the inverter doesn't work, while OFF=5V, it works under normal situation. 3. DIM signal for luminance modulation, offered by Pin 98 of U201 in the main board with its range of 0~5V. The Inverter offers different currents to the loads because of the different feedback of voltage to the feedback-terminal of PWM. The smaller the value of DIM, the smaller the current output of Inverter, the darker the brightness.

Voltage start-up circuit: It consists of a PNP and a NPN transistor with two working stages. The first stage: When the ON/OFF enables voltage is 0V, the Q201 is closed and Q202 is closed too. The DC voltage at collector of Q202 can't be applied to PIN9 of U201, so there are no pulse output at PIN10 and PIN7. Hence, the Inverter don't work. The second stage: ON/OFF is high level, Q201 gets through and base of Q202 is pulled down, thus Q202 gets through. Then 12V voltage is applied to PIN9 of U201 resulting in the operation of IC. Hence, U201 produces pulse output to control switch transistor, and the Inverter which applied high voltage across the backlight works well.



PIN9 of U201

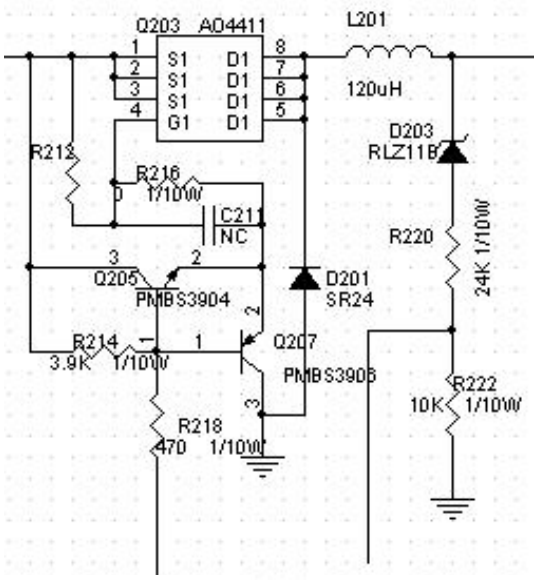
Protection circuit:

1. Over-voltage protection: D203 or D204 is broken down when the output of L201 or L202 exceeds 11V, which increases the voltage applied across R222 or R223.It results in rising the DTC value of U201.When the value falls downs to be lower than surge voltage, the output is shut. The whole process acts as protection.

2. Over-current protection: when the output connects to ground and the inside reference voltage charges the capacitance connected to SCP to 1V, then PWM is shut. In addition, when the load is unloaded, it also means that there is no feedback voltage applied to PIN14 and PIN3 of U201, the inside circuit will work to protect the circuit

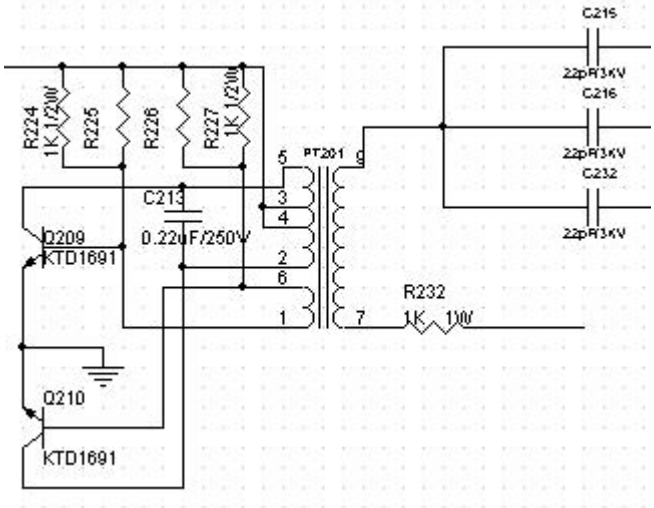
DC-DC Circuit: The DC-DC Circuit is made up of MOSFET Q203, energy-storing inductor L201 and D201, The pulse output of BA9741A is magnified by the amplifier made up of Q205, Q207 to drive the MOSFET. It performs charge to L201 when the high level coming, thus the following waveform is produced at the other terminal of L201, as follows:

L201 performs discharge when the low level coming and D201 and L201 form durative current loop. Because the current of pulse output is so weak that it can't drive MOSFET Q203, thus a circuit containing Q205, Q207 used for amplifying should be employed.

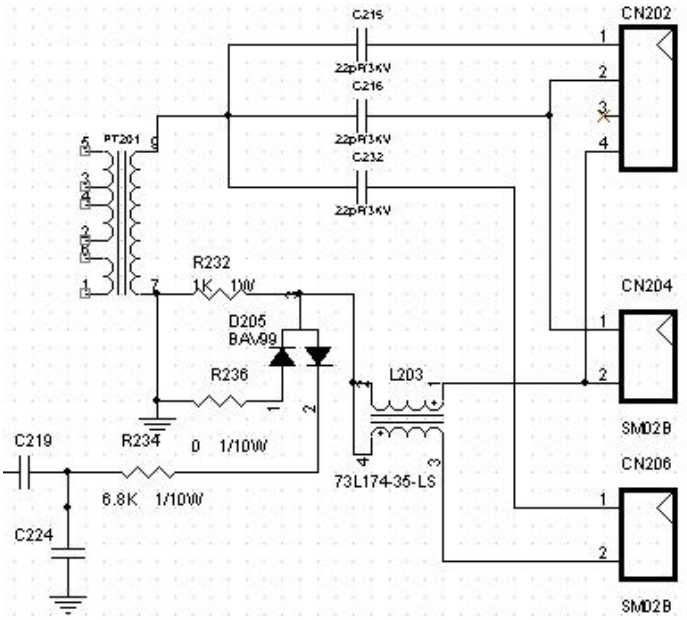


From U201 PIN10 TO U201 PIN11

OSC and output circuit: OSC is made up of C213 and PT201 and PUSH-PULL circuit is made up of Q209, Q210. They are in alternate working state. R224, R225, R226, R227 are used for starting up OSC. The voltage of Q209 and Q210 adds in PT201, and then it produces high voltage sine wave through LC OSC. The high voltage of 1500V produced by PT201 is applied across the two terminals of backlight through the effect of capacitance coupling. C215, C216, C232 are coupling capacitance for voltage division as output. The two terminals of capacitance is applied across a certain voltage because of the impedance exists in capacitor. The voltage across the backlight can decay to about 800V by selecting the parameter value of capacitance.



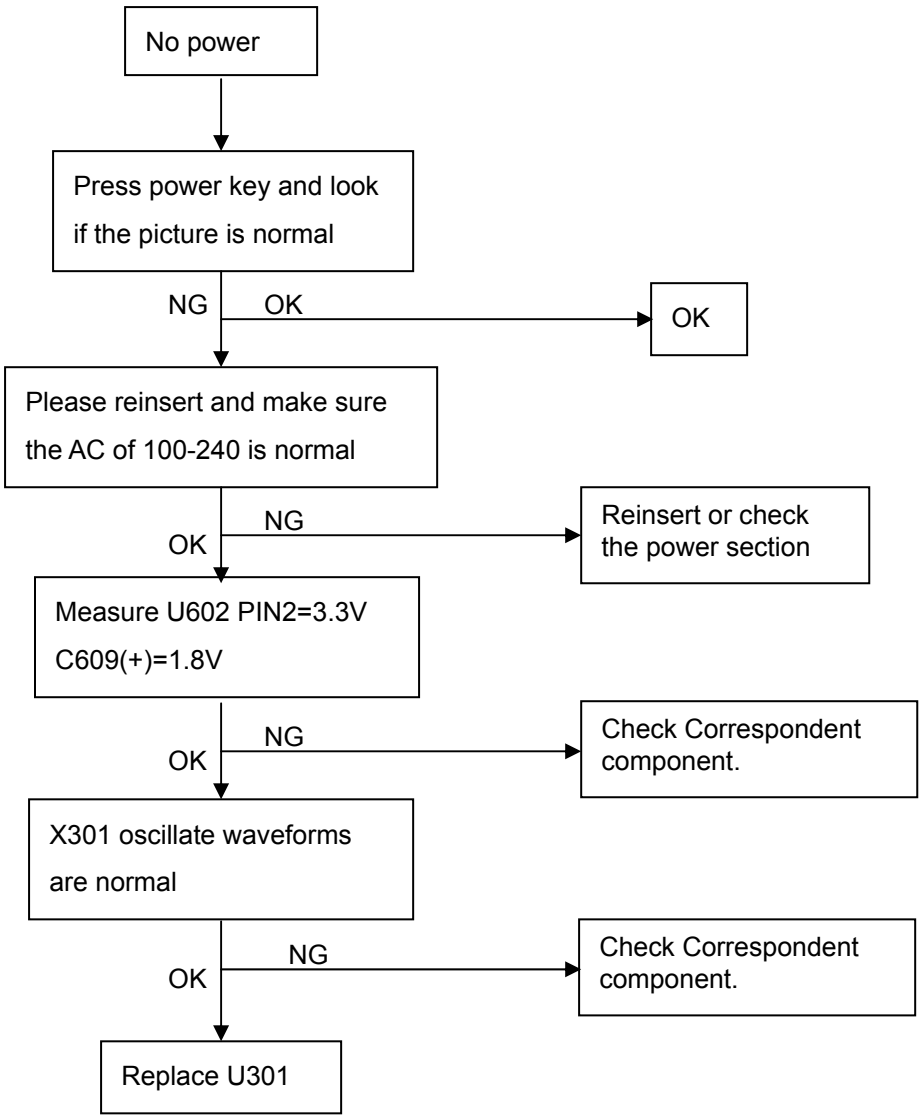
Feedback circuit: Alternating voltage exists at the two terminals of R232 when the loads are working. After being commuted and filtered, it changed to a DC sampling voltage. Apply the voltage to PIN14 of U201, and it is used to control the duty of pulse output. The whole process acts as steadying the output voltage.


C215
22pF/3KV
C216
22pF/3KV
C232
22pF/3KV
CN202
PT201
R232
1K 1W
D205
BAV99
R236
L203
CN204
SM02B
C219
R234
0 1/10W
6.8K 1/10W
73L174-35-LS
CN206
C224
SM02B

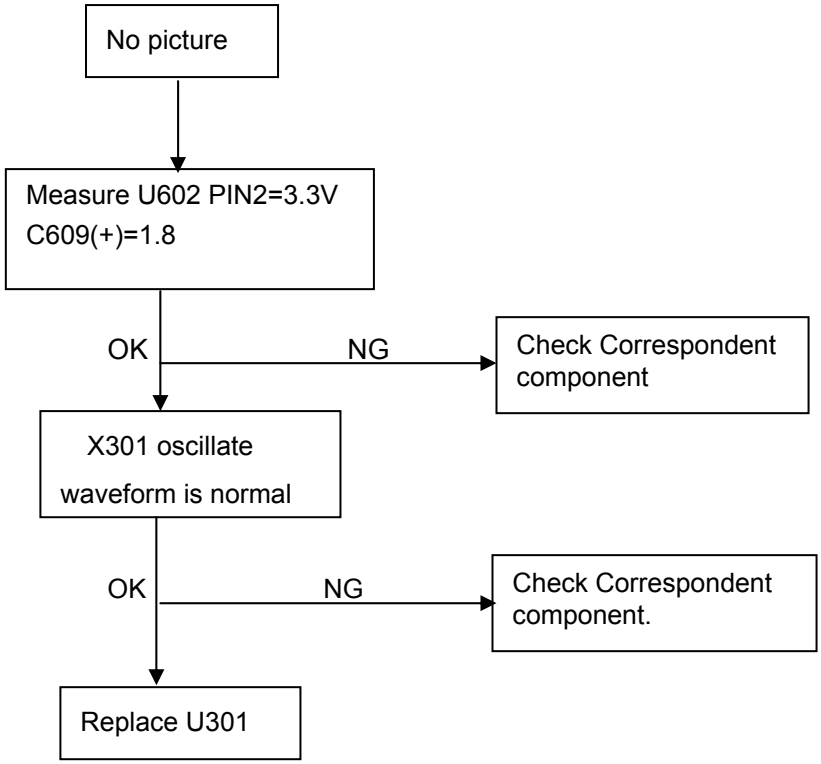
6. Trouble shooting

6.1 Main board

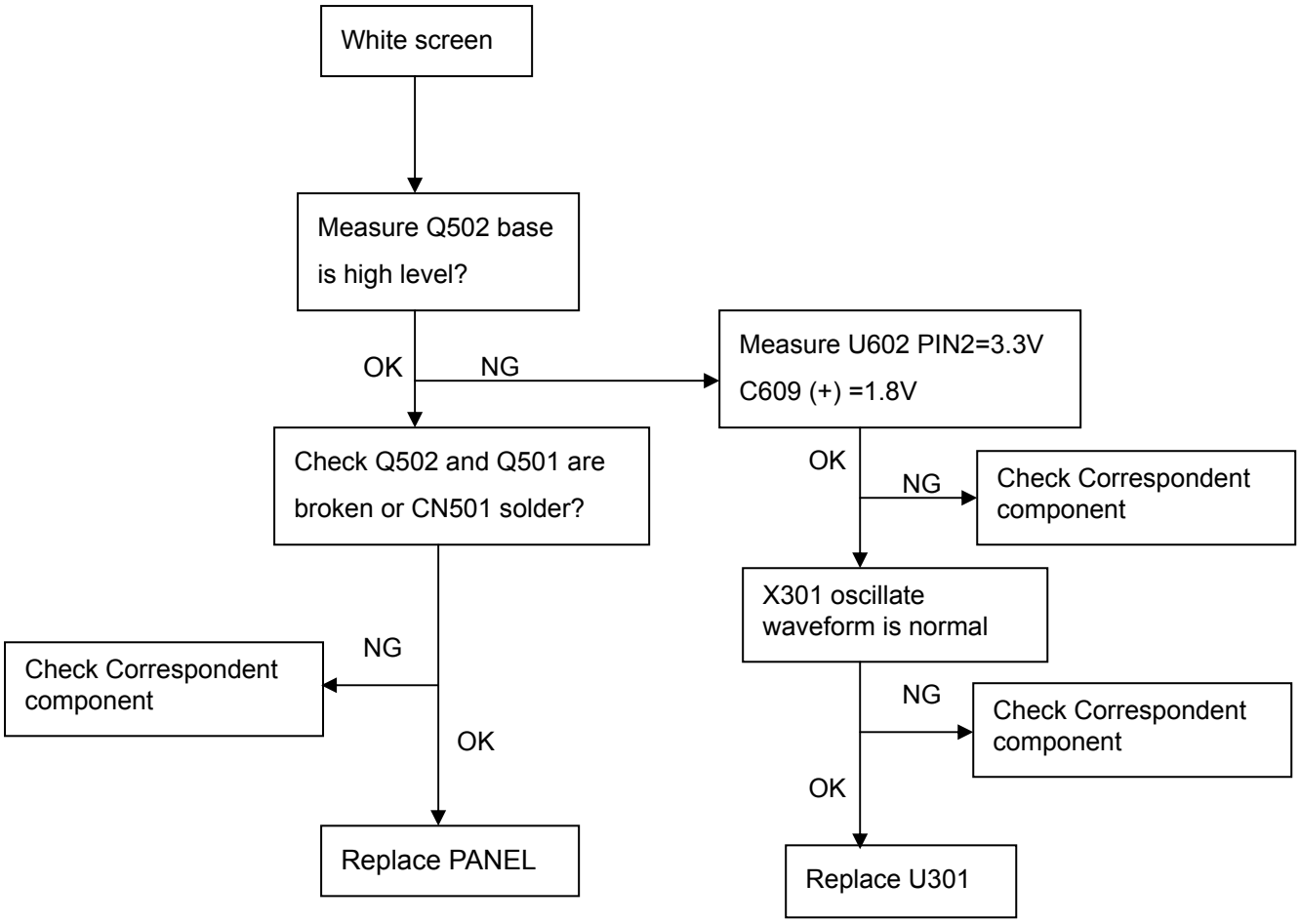
No power



No picture (LED orange)

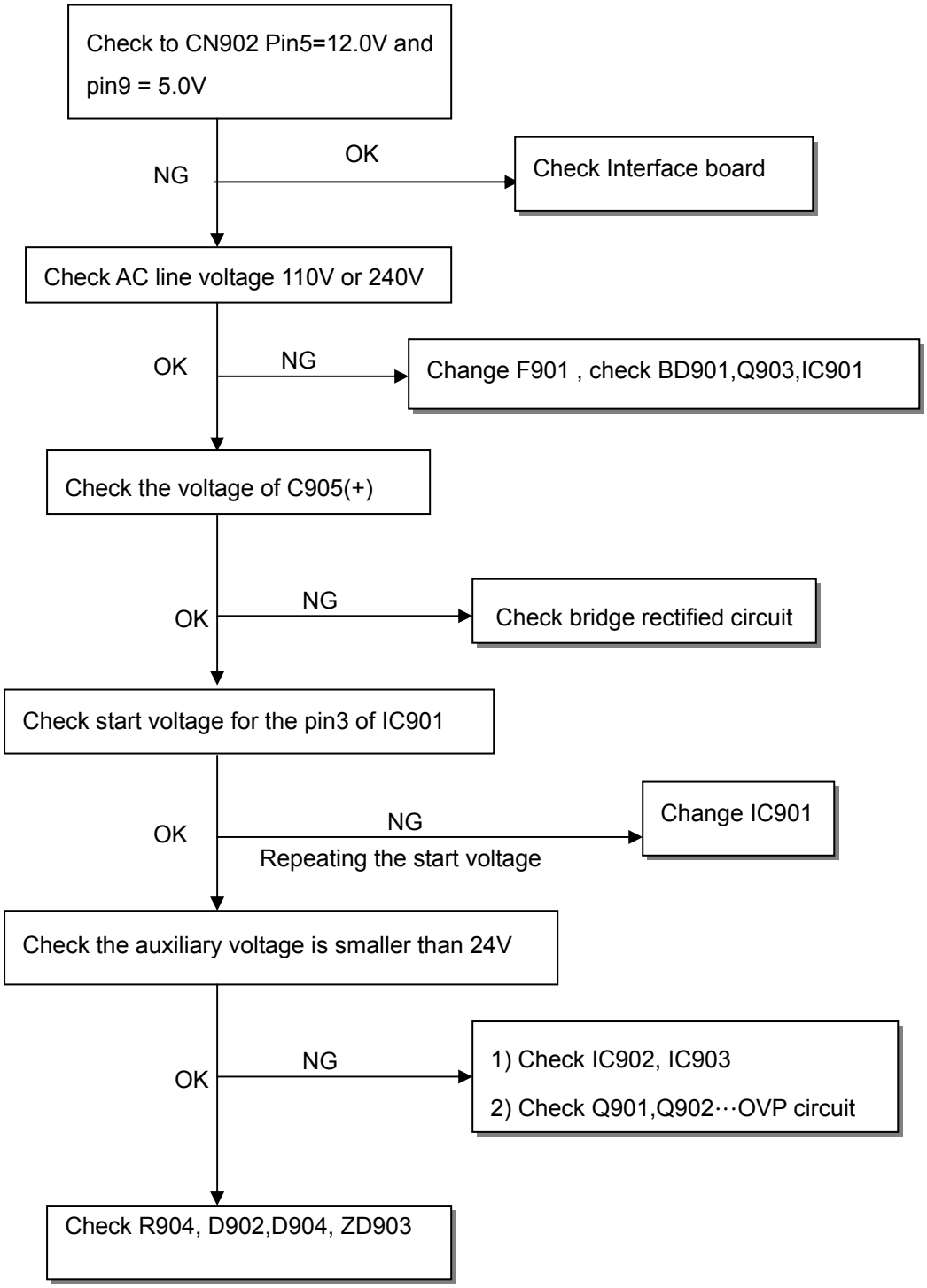


White screen

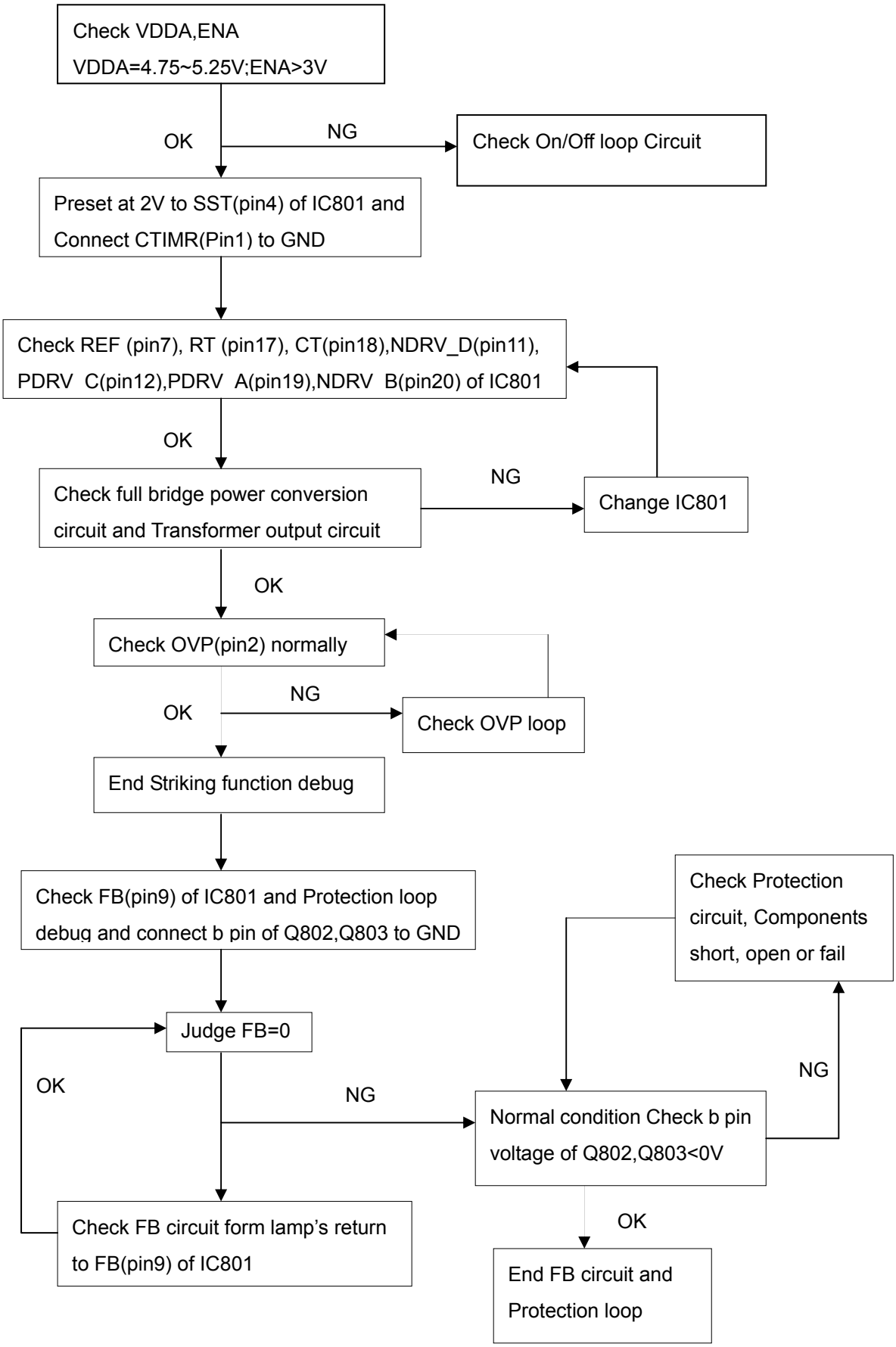


6.2 PWPC board

No Power



No Backlight



7. BOM

7.1 T982KADDKNSVAP

Symbol	Part NO. for TPV	Description
	M1G1730 6120 GP	M3*6 SCREW
	AUPC982S1P	AUDIO BOARD
	CBPC982KAD1SP	CONVERSION BOARD
	PWPC1942CMS1P	POWER BOARD
	7G 6 5S02 GP	COMPOUND PALLET
	11G6048 1 GP	CLAMP-S
	11G6054 1 GP	LOCK WASHER
	11G6070 1 GP	TIE MOUNTS
	11G6078 1 GP	WIRE MOUNT
	11G6084 1 GP	CLAMP
	15G8168 2 GP	MAIN FRAME AU
	23G3178834 7A GP	LOGO
	33G4880 LO L GP	SCREW CAP
	34G1586 LO B GP	REAR COVER
	40G 152509 GP	RECYCLE LABEL
	40G 152512 GP	RECYCLE LABEL
	40G 457834 4A GP	S/N LABEL FOR ID
	40G 457834 9A GP	CARTON LABEL
	40G 58162435A GP	LABEL FOR PE BAG
	44G6002834 9A GP	PAPER PLATE
	44GP902 1 GP	PULP MOLD
	44GP902 2 GP	PULP MOLD
	44GP902624 1A	CARTON
	45G 88607SY1 GP	EPE BAG FOR MONITOR
	45G 88621 21 GP	PE RING
	50G 600 2	HANDLE1
	50G 600 3	HANDLE2
	52G 1185 GP	MIDDLE TAPE FOR CARTON
	52G 1186 GP	SMALL TAPE
	52G6025 12115 GP	MYLAR
	85G 700 1 GP	SHIELD
	89G 173 56 31 GP	AUDIO CABLE 1.8M BLACK
	89G1738LAA 17 GP	SIGNAL CABLE
	95G8014 12 34 GP	DC-DC WIRE HARNESS
	95G8018 30 77 GP	LVDS WIRE HARNESS

	M1G 130 4120 GP	CPT PANEL/MAINFRAME
	M1G 130 6120 GP	SCREW
	M1G 240 12225 GP	SCREW
	M1G 330 4 47 GP	SCREW
	M1G 330 4120 GP	SCREW
	M1G1140 6120 GP	SCREW
	M1G1730 6120 GP	M3*6 SCREW
	Q1G 330 8120 GP	SCREW 3X8mm
	Q1G 330 25 47 GP	T3*25 SCREW
	705G982KF34001	19" LCD COVER ASS'Y
E089A	89G402A18N HR GP	POWER CORD
E089A	89G402A18N IS GP	POWER CORD
E750L	750GLU90N45 11 GP	AU 19" V5A PANEL
E750L	750GLU90N45 12 GP	AU 19" V5A PANEL

AUPC982S1P

Symbol	Part NO. for TPV	Description
	33G4878 LO L GP	HOLDER AUDIO OUT
	95G8014 3 14 GP	AUDIO 3-3 WIRE HARNESS
	715G1519 1 GP	PCB
CN801	33G3802 3H GP	S3D-PH-K-S(LF)SN TST
CN802	88G 30226T GP	PHONE JACK 3.5MM 3P C1F
CN802	88G 30226T TO GP	PHONE JACK 3.5MM

CBPC982KAD1SP

Symbol	Part NO. for TPV	Description
	AIC982KAD1SP	MAIN BOARD
	15G8170 1 GP	BKT CONNECTOR
	40G 457624 1B GP	CPU LABEL
	40G 45762420A GP	CBPC LABEL 25X6mm
	M1G1730 6120 GP	M3*6 SCREW
C226	67G215L470 4N GP	KY25VB47M-L 5*11
C301	67G215Y2207NV GP	KY50VB22M-CC3
C309	67G215Y2207NV GP	KY50VB22M-CC3
C316	67G215Y2207NV GP	KY50VB22M-CC3
C319	67G215Y2207NV GP	KY50VB22M-CC3
C325	67G215Y2207NV GP	KY50VB22M-CC3

C501	67G305V101 4N GP	KME25VB100M-CC3 6.3*1
C601	67G215L101 4N GP	KY25VB100M-L(6.3*11)
C604	67G215L470 4N GP	KY25VB47M-L 5*11
C605	67G215L470 4N GP	KY25VB47M-L 5*11
C608	67G215Y2207NV GP	KY50VB22M-CC3
C609	67G215V221 4N GP	KY25VB220-M-CC3
C702	67G215L470 4N GP	KY25VB47M-L 5*11
C705	67G215L470 4N GP	KY25VB47M-L 5*11
C718	67G215L470 4N GP	KY25VB47M-L 5*11
C719	67G215L470 4N GP	KY25VB47M-L 5*11
CN201	88G 35315FHSW GP	D-SUB
CN401	33G8027 10 GP	WAFER
CN501	33G8027 24 H GP	WAFER
CN601	33G8027 12 GP	WAFER
CN601	33G802712A GP	WAFER
CN701	88G 30225T GP	PHONE JACK 3.5MM 3P C1F
CN701	88G 30225T TO GP	PHONE JACK 3.5MM
CN703	33G3802 3H GP	S3D-PH-K-S(LF)SN TST
L602	73G 253158 L	INUDCTOR 15UH PE-54041S
U301	90G6077 2 GP	HEAT SINK
X301	93G 22 53	CRYSTAL 14.318MHzHC-49U
	715G1506 1 GP	PCB main board
C201	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C212	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C213	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C214	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C215	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C217	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C218	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C219	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C220	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C221	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C222	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C225	65G0603102 32 GP	1000PF +-10% 50V X7R
C302	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C303	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C304	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C305	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C306	65G0603104 12 GP	CHIP 0.1UF 16V X7R

C307	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C308	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C310	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C311	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C312	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C313	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C314	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C317	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C318	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C320	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C321	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C322	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C323	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C324	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C326	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C327	65G0603330 31 GP	33PF+-5% 50V NPO
C328	65G0603330 31 GP	33PF+-5% 50V NPO
C330	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C331	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C332	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C333	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C401	65G0603104 32 GP	CHIP 0.1UF 50V X7R
C402	65G0603102 32 GP	1000PF +-10% 50V X7R
C403	65G0603102 32 GP	1000PF +-10% 50V X7R
C404	65G0603102 32 GP	1000PF +-10% 50V X7R
C405	65G0603102 32 GP	1000PF +-10% 50V X7R
C407	65G0603102 32 GP	1000PF +-10% 50V X7R
C408	65G0603102 32 GP	1000PF +-10% 50V X7R
C409	65G0603102 32 GP	1000PF +-10% 50V X7R
C410	65G0603102 32 GP	1000PF +-10% 50V X7R
C502	65G0603103 32 GP	CHIP 0.01UF 50V X7R
C503	65G0603683 32 GP	CHIP 0.068UF 50V X7R
C504	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C505	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C602	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C603	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C606	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C607	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C610	65G0603104 12 GP	CHIP 0.1UF 16V X7R

C611	65G0603102 32 GP	1000PF +-10% 50V X7R
C612	65G0603102 32 GP	1000PF +-10% 50V X7R
C613	65G0603102 32 GP	1000PF +-10% 50V X7R
C614	65G0603102 32 GP	1000PF +-10% 50V X7R
C615	65G0603104 12 GP	CHIP 0.1UF 16V X7R
C706	65G0603101 32 GP	0603 100PF 50V XTR
C707	65G0603101 32 GP	0603 100PF 50V XTR
C716	65G0603101 32 GP	0603 100PF 50V XTR
C717	65G0603101 32 GP	0603 100PF 50V XTR
D210	93G 64 33	DIO SIG SM BAV99 (PHSE)
D211	93G 64 33	DIO SIG SM BAV99 (PHSE)
D212	93G 64 33	DIO SIG SM BAV99 (PHSE)
D213	93G 60505	DIO SIG SM BAT54C(PHSE)
D601	93G2004 2A	SM240A DO-214AC
D602	93G5004 2	DIODE SSM54 5A 40V
D701	93G 64 33	DIO SIG SM BAV99 (PHSE)
D702	93G 64 33	DIO SIG SM BAV99 (PHSE)
D705	93G 64 33	DIO SIG SM BAV99 (PHSE)
D706	93G 64 33	DIO SIG SM BAV99 (PHSE)
FB201	71G 59C800 GP	CHIP BEAD
FB202	71G 59C800 GP	CHIP BEAD
FB203	71G 59C800 GP	CHIP BEAD
FB301	71G 56K121 GP	GA 120 OHM BEAD
FB301	71G 56K121 M GP	120 OHM 6A
FB302	71G 56K121 GP	GA 120 OHM BEAD
FB302	71G 56K121 M GP	120 OHM 6A
FB303	71G 56K121 GP	GA 120 OHM BEAD
FB303	71G 56K121 M GP	120 OHM 6A
FB304	71G 56K121 GP	GA 120 OHM BEAD
FB304	71G 56K121 M GP	120 OHM 6A
FB305	71G 56K121 GP	GA 120 OHM BEAD
FB305	71G 56K121 M GP	120 OHM 6A
FB306	71G 56K121 GP	GA 120 OHM BEAD
FB306	71G 56K121 M GP	120 OHM 6A
FB701	71G 56K121 GP	GA 120 OHM BEAD
FB701	71G 56K121 M GP	120 OHM 6A
Q203	57G 758 1	2N7002ESOT23 SILICONIX
Q203	57G 759 2	RK7002
Q204	57G 758 1	2N7002ESOT23 SILICONIX

Q204	57G 759 2	RK7002
Q205	57G 758 1	2N7002ESOT23 SILICONIX
Q205	57G 759 2	RK7002
Q401	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q402	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q501	57G 763 1	A03401 SOT23 BY AOS(A1)
Q502	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q601	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q602	57G 763 1	A03401 SOT23 BY AOS(A1)
R217	61L0603103 GP	CHIPR 10K OHM +-5% 1/10
R219	61L0603333 GP	CHIP 33KOHM 1/16W
R222	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R224	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R225	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R226	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R228	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R229	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R230	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R231	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R232	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R234	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R235	61L0603750 GP	CHIPR 75 OHM+-5% 1/10W
R236	61L0603750 GP	CHIPR 75 OHM+-5% 1/10W
R237	61L0603750 GP	CHIPR 75 OHM+-5% 1/10W
R238	61L0603330 1F GP	CHIPR 3.3K OHM +-1% 1/1
R241	61L0603100 2F GP	CHIPR 10K OHM +-1% 1/10
R243	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R244	61L0603221 GP	CHIP 220 OHM 1/16W
R245	61L0603221 GP	CHIP 220 OHM 1/16W
R246	61L0603222 GP	CHIPR 2.2K OHM+-5% 1/10
R247	61L0603222 GP	CHIPR 2.2K OHM+-5% 1/10
R302	61L0603249 0F GP	CHIP 249 OHM 1/16W
R305	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R306	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R307	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R308	61L0603472 GP	CHIPR 4.7K OHM +-5% 1/1
R309	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R310	61L0603101 GP	CHIPR 100 OHM +-5% 1/10
R311	61L0603101 GP	CHIPR 100 OHM +-5% 1/10

R315	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R316	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R317	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R318	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R323	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R324	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R329	61L0603102	GP	CHIPR 1K OHM +-5% 1/10W
R331	61L0603103	GP	CHIPR 10K OHM +-5% 1/10
R334	61L0603000	GP	CHIPR 0OHM +-5% 1/10W
R339	61L0603101	GP	CHIPR 100 OHM +-5% 1/10
R340	61L0603101	GP	CHIPR 100 OHM +-5% 1/10
R341	61L0603101	GP	CHIPR 100 OHM +-5% 1/10
R342	61L0603101	GP	CHIPR 100 OHM +-5% 1/10
R401	61L0603223	GP	CHIP 22KOHM 1/16W
R402	61L0603511	GP	CHIPR 510 OHM+-5% 1/10W
R403	61L0603103	GP	CHIPR 10K OHM +-5% 1/10
R404	61L0603103	GP	CHIPR 10K OHM +-5% 1/10
R405	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R406	61L0603103	GP	CHIPR 10K OHM +-5% 1/10
R408	61L0603303	GP	CHIP 30K OHM 5% 1/10W
R409	61L0603473	GP	CHIP 47K OHM 1/10W
R410	61L0603223	GP	CHIP 22KOHM 1/16W
R411	61L0603303	GP	CHIP 30K OHM 5% 1/10W
R413	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R414	61L0603392	GP	CHIP 3.9K OHM 1/10W
R415	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R502	61L1206331	GP	CHIP 330 OHM 5%
R504	61L0603104	GP	CHIPR 100K OHM +-5% 1/1
R505	61L0603104	GP	CHIPR 100K OHM +-5% 1/1
R506	61L0603103	GP	CHIPR 10K OHM +-5% 1/10
R601	61L0603472	GP	CHIPR 4.7K OHM +-5% 1/1
R602	61L0603102	GP	CHIPR 1K OHM +-5% 1/10W
R603	61L0603102	GP	CHIPR 1K OHM +-5% 1/10W
R604	61L0603102	GP	CHIPR 1K OHM +-5% 1/10W
R605	61L0603220	GP	CHIPR 22 OHM+-5% 1/10W
R606	61L0603333	GP	CHIP 33KOHM 1/16W
R607	61L0603150 2F	GP	CHIP 15KOHM 1/16W 1%
R608	61L0603316 2F	GP	CHIP 31.6KOHM 1/16W 1%
R701	61L0603000	GP	CHIPR 0OHM +-5% 1/10W

R702	61L0603000 GP	CHIPR 0OHM +-5% 1/10W
R703	71G 59B121 GP	CHIP BEAD 1200HM
R704	71G 59B121 GP	CHIP BEAD 1200HM
R716	71G 59B121 GP	CHIP BEAD 1200HM
R717	71G 59B121 GP	CHIP BEAD 1200HM
R722	61L0603000 GP	CHIPR 0OHM +-5% 1/10W
R723	61L0603000 GP	CHIPR 0OHM +-5% 1/10W
U202	56G1133 34	M24C02-WMN6TP
U202	56G113334A	24LC02B/SNG SOIC-8PIN
U301	56G 562 96	GM2621-LF-AA
U302	56G 643 13	G691L400T73UF SOT-23 GM
U303	56G1133 56	M24C16-WMN6TP
U303	56G113356A	24LC16B/SNG SOIC-8PIN
U305	56G1133 59AS3	SST25VF010-20-4C-SAE SO
U601	56G 133 32 NS	LM3485 MSOP-8 NS
U602	56G 563 7	AIC1084-33PM
ZD207	93G 39S 34 T	UDZS5.6B
ZD208	93G 39S 34 T	UDZS5.6B
ZD210	93G 39S 34 T	UDZS5.6B
ZD212	93G 39S 34 T	UDZS5.6B
ZD213	93G 39S 34 T	UDZS5.6B
ZD216	93G 39S 34 T	UDZS5.6B
ZD301	93G 39S 34 T	UDZS5.6B
ZD401	93G 39S 34 T	UDZS5.6B
ZD402	93G 39S 34 T	UDZS5.6B
ZD403	93G 39S 34 T	UDZS5.6B
ZD404	93G 39S 34 T	UDZS5.6B
ZD406	93G 39S 34 T	UDZS5.6B
ZD407	93G 39S 34 T	UDZS5.6B
ZD408	93G 39S 34 T	UDZS5.6B
ZD409	93G 39S 34 T	UDZS5.6B
ZD501	93G 39S 34 T	UDZS5.6B
ZD601	93G 39S 34 T	UDZS5.6B

PWPC1942CMS1P

Symbol	Part NO. for TPV	Description
	PW1942CMS1PA4	A4 ASS'Y FOR POWER
	PW1942CMS1SMTP	POWER BOARD FOR SMT

	15G8033 1 GP	BKT_AC INLET
	40G 45762420A GP	CBPC LABEL 25X6mm
	52G 1174	TYPE
	M1G1730 6128 GP	SCREW
	705G 780 61 58	NR901 ASS'Y
	705G 780 87 27	CN901 ASS'Y
	705G 780 93 S2	D904 ASS'Y
	705G 780 93 S9	D902 ASS'Y
	705G 980 57 S2	Q903 ASS'Y
	705G 980 61 S1	R905 ASS'Y
	705G 980 61 S2	R904 ASS'Y
	705G 980 95 S1	JP907 ASS'Y
C840	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C840	67G215V471 4N GP	KY25VB470M-CC3 10*16
C845	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C845	67G215V471 4N GP	KY25VB470M-CC3 10*16
C904	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C904	67G215V471 4N GP	KY25VB470M-CC3 10*16
C905	67G215S10115N GP	EC CAP 450V/100
C905	67G215S10115Q GP	LOWESR EC 100UF 450V UP
C906	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C906	67G215V471 4N GP	KY25VB470M-CC3 10*16
C908	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C908	67G215V471 4N GP	KY25VB470M-CC3 10*16
C909	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C909	67G215V471 4N GP	KY25VB470M-CC3 10*16
C911	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C911	67G215V471 4N GP	KY25VB470M-CC3 10*16
C912	67G215L471 4Q GP	LOW ESR EC 470UF 25V UH
C912	67G215V471 4N GP	KY25VB470M-CC3 10*16
CN801	33G8021 2D U GP	WAFER
CN802	33G8021 2D U GP	WAFER
CN803	33G8021 2D U GP	WAFER
CN804	33G8021 2D U GP	WAFER
CN902	33G8027 12 GP	WAFER
IC902	56G 139 3A	PC123Y22FZOF
IC902	56G 139 3B	PC123 Y82FZ0F
L901	73L 174 53 LG GP	CHOKE
L902	73L 174 55 LG GP	LINE FILTER BY LITAI

L902	73L 174 55LSG GP	LINE FILTER BY LISHIN
L903	73G 253 91 LS GP	CHOKE BY LI SHIN
L904	73G 253 91 LS GP	CHOKE BY LI SHIN
PT801	80LL17T 16DNG GP	INVERTER TRANSFORMER
PT801	80LL17T 16LCG GP	INVERTER TRANSFORMER
PT802	80LL17T 16DNG GP	INVERTER TRANSFORMER
PT802	80LL17T 16LCG GP	INVERTER TRANSFORMER
T901	80LL19T 7 LG GP	PT003078 LI TAI
T901	80LL19T 7LSG GP	ADAPTER TRANSFORMER
BD901	93G 50460 16	U4KB80R
C818	65G 3J1006EM GP	10PF 5% SL 3KV MURATA
C818	65L 3J1006ET GP	10PF 5% SL 3KV TDK
C825	65G 3J1006EM GP	10PF 5% SL 3KV MURATA
C825	65L 3J1006ET GP	10PF 5% SL 3KV TDK
C826	65L 3J5096ET GP	CERAMIC CAP
C827	65L 3J5096ET GP	CERAMIC CAP
C830	65L 3J5096ET GP	CERAMIC CAP
C842	65L 3J5096ET GP	CERAMIC CAP
C843	65G 3J1006EM GP	10PF 5% SL 3KV MURATA
C843	65L 3J1006ET GP	10PF 5% SL 3KV TDK
C844	65G 3J1006EM GP	10PF 5% SL 3KV MURATA
C844	65L 3J1006ET GP	10PF 5% SL 3KV TDK
C901	65G306M1022BM GP	Y1.CAP.001UF 250VAC MUR
C902	65G306M1022BM GP	Y1.CAP.001UF 250VAC MUR
C903	63G 10747410S GP	0.47UF +-10% 250VAC
C921	65G306M1022BM GP	Y1.CAP.001UF 250VAC MUR
FB901	71G 55 29 GP	FERRITE BEAD
VAR901	61G 46 12 GP	TNR15G681K
	PW1942CMS1AIP	POWER BOARD FOR AI
C801	65G0805222 31 GP	CHIP 0.0022UF 50V NPO 0
C802	65G0805222 31 GP	CHIP 0.0022UF 50V NPO 0
C803	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C804	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C805	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C806	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C807	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C809	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C810	65G0805332 31 GP	CHIP 3.3NF 50V NPO 0805
C811	65G0805471 21 GP	CHIP 470PF 25V NPO 0805

C813	65G1206104 32 GP	CHIP 0.1UF 25V X7R 1206
C815	65G0805222 31 GP	CHIP 0.0022UF 50V NPO 0
C817	65G0805222 31 GP	CHIP 0.0022UF 50V NPO 0
C819	65G0805105 22 GP	CHIP 1UF 25V X7R 0805
C820	65G1206104 32 GP	CHIP 0.1UF 25V X7R 1206
C821	65G0805473 22 GP	0.047UF 25V X7R 0805
C823	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C824	65G1206104 32 GP	CHIP 0.1UF 25V X7R 1206
C828	65G1206104 32 GP	CHIP 0.1UF 25V X7R 1206
C829	65G0805473 22 GP	0.047UF 25V X7R 0805
C831	65G0805152 32 GP	CHIP 1500PF 50V X7R 080
C832	65G0805472 21 GP	CHIP 0.0047UF 25V NPO 0
C834	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C835	65G0805105 22 GP	CHIP 1UF 25V X7R 0805
C836	65G0805474 22 GP	CHIP 0.47UF 25V X7R 080
C837	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C838	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C839	65G0805105 22 GP	CHIP 1UF 25V X7R 0805
C841	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C846	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C847	65G1206225 17 GP	CHIP 2.2UF 16V Y5V 1206
C848	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C907	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C910	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C914	65G1206104 32 GP	CHIP 0.1UF 25V X7R 1206
C915	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C916	65G0805104 22 GP	0.1UF +-10% 25V X7R 080
C917	65G0805103 22 GP	CHIP 0.01UF 25V X7R 080
C918	65G0805105 22 GP	CHIP 1UF 25V X7R 0805
C919	65G0805471 21 GP	CHIP 470PF 25V NPO 0805
D801	93G 64 33	DIO SIG SM BAV99 (PHSE)
D801	93G 6433G	BAV99-SMT
D802	93G 64 33	DIO SIG SM BAV99 (PHSE)
D802	93G 6433G	BAV99-SMT
D804	93G 64 44 S	LL4148WP
D804	93G 6432V	LL4148-GS08
D806	93G 64 33	DIO SIG SM BAV99 (PHSE)
D806	93G 6433G	BAV99-SMT
D809	93G 64 44 S	LL4148WP

D809	93G 6432V	LL4148-GS08
D810	93G 64 33	DIO SIG SM BAV99 (PHSE)
D810	93G 6433G	BAV99-SMT
D812	93G 64 33	DIO SIG SM BAV99 (PHSE)
D812	93G 6433G	BAV99-SMT
D813	93G 64 33	DIO SIG SM BAV99 (PHSE)
D813	93G 6433G	BAV99-SMT
D903	93G 64 44 S	LL4148WP
D903	93G 6432V	LL4148-GS08
D906	93G 64 44 S	LL4148WP
D906	93G 6432V	LL4148-GS08
IC801	56G 608 7	OZT1060GN SOIC-20
IC901	56G 379 33	SG6841SZ
JR801	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR802	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR803	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR804	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR805	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR806	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR807	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR901	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
JR902	61L1206000 GP	CHIPR 0 OHM +-5% 1/4W
Q802	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q802	57G 417 4A	2SC3052-T112-1F
Q803	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q803	57G 417 4A	2SC3052-T112-1F
Q806	57G 760 4	DTA144WKA BY ROHM SMT
Q806	57G 760 4B	PDTA144WK SOT346
Q806	57G 760 4C	RT1P44HC-T112-1
Q807	57G 760 5	DTC144WKA BY ROHM SMT
Q807	57G 760 5B	PDTC144WK SOT346
Q807	57G 760 5C	RTIN44HC-T112-1
Q808	57G 600 40	SP8M3FTB SOP-8
Q808	57G 600 60	MOSFET
Q808	57G 60040A	AM4512C-T1-PF SO-8
Q809	57G 600 40	SP8M3FTB SOP-8
Q809	57G 600 60	MOSFET
Q809	57G 60040A	AM4512C-T1-PF SO-8
Q810	57G 600 40	SP8M3FTB SOP-8

Q810	57G 600 60	MOSFET
Q810	57G 60040A	AM4512C-T1-PF SO-8
Q811	57G 600 40	SP8M3FTB SOP-8
Q811	57G 600 60	MOSFET
Q811	57G 60040A	AM4512C-T1-PF SO-8
Q812	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q812	57G 417 4A	2SC3052-T112-1F
Q901	57G 417 6	PMBS3906/PHILIPS-SMT(06
Q901	57G 417 6A	2SA1235A-T112-1F
Q902	57G 417 4	PMBS3904/PHILIPS-SMT(04
Q902	57G 417 4A	2SC3052-T112-1F
R801	61L0805680 1F GP	CHIPR 6.8KOHM +-1% 1/8W
R802	61L0805823 GP	CHIPR 82K OHM+-5% 1/8W
R803	61L0805270 0F GP	CHIPR 270 OHM +-1% 1/8W
R804	61L0805102 GP	CHIPR 1K OHM +-5% 1/8W
R805	61L0805102 GP	CHIPR 1K OHM +-5% 1/8W
R806	61L0805104 GP	CHIPR 100K OHM+-5% 1/8W
R807	61L0805105 GP	CHIP IMOHM 0805
R808	61L0805362 GP	CHIP 3.6KOHM 0805
R809	61L0805200 2F GP	CHIP 20KOHM 1/8W
R811	61L0805513 GP	CHIP 51 KOHM 0805
R812	61L0805333 GP	CHIP 33K OHM 0805
R814	61L0805300 2F GP	CHIPR 30KOHM 1% 1/8W
R816	61L0805102 GP	CHIPR 1K OHM +-5% 1/8W
R817	61L0805105 GP	CHIP IMOHM 0805
R818	61L0805102 GP	CHIPR 1K OHM +-5% 1/8W
R819	61L0805270 0F GP	CHIPR 270 OHM +-1% 1/8W
R820	61L0805362 GP	CHIP 3.6KOHM 0805
R821	61L0805680 1F GP	CHIPR 6.8KOHM +-1% 1/8W
R822	61L0805823 GP	CHIPR 82K OHM+-5% 1/8W
R824	61L0805103 GP	CHIPR 10K OHM +-5% 1/8W
R825	61L1206204 GP	CHIPR 200K OHM +-5% 1/4
R828	61L0805103 GP	CHIPR 10K OHM +-5% 1/8W
R829	61L1206100 GP	CHIPR 10 OHM+-5% 1/4W
R830	61L0805913 GP	CHIP 91K OHM 0805
R832	61L1206103 GP	CHIP 10KOHM 5% 1/4W
R833	61L0805364 GP	CHIP 360KOHM 0805
R835	61L0805105 GP	CHIP IMOHM 0805
R836	61L0805204 GP	CHIP 200KOHM 0805

R837	61L0805102	GP	CHIPR 1K OHM +-5% 1/8W
R838	61L1206471	GP	CHIP 470 OHM 1/8W
R840	61L0805104	GP	CHIPR 100K OHM+-5% 1/8W
R842	61L0805104	GP	CHIPR 100K OHM+-5% 1/8W
R843	61L0805104	GP	CHIPR 100K OHM+-5% 1/8W
R844	61L1206220	GP	22 OHM/1206
R845	61L0805220	GP	CHIP 22 OHM 5% 0805 1/8
R901	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R902	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R903	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R906	61L1206101	GP	CHIP 100 OHM 5% 1/4W
R907	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R908	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R909	61L1206434	GP	430K 1206 1/4W 5%
R910	61L1206434	GP	430K 1206 1/4W 5%
R911	61L1206472	GP	CHIP 4.7KOHM 5% 1/4W
R912	61L0805472	GP	CHIRP 4.7K OHM +-5% 1/8
R913	61L0805472	GP	CHIRP 4.7K OHM +-5% 1/8
R914	61L1206519	GP	CHIPR 5.1 OHM +-5% 1/4W
R915	61L0805101	GP	CHIPR 100 OHM +-5% 1/8W
R916	61L1206101	GP	CHIP 100 OHM 5% 1/4W
R918	61L1206470	GP	CHIPR 47 OHM+-5% 1/4W
R919	61L0805103	GP	CHIPR 10K OHM +-5% 1/8W
R920	61L0805330 2F	GP	CHIP 33KOHM 1/8W +-1%
R921	61L0805360 1F	GP	CHIP 3.6KOHM 1/8W 1%
R922	61L0805240 1F	GP	CHIPR 2.4KOHM +-1% 1/8W
R923	61L0805102	GP	CHIPR 1K OHM +-5% 1/8W
R924	61L0805102	GP	CHIPR 1K OHM +-5% 1/8W
R925	61L0805000	GP	CHIP O OHM 1/8W
R926	61L0805102	GP	CHIPR 1K OHM +-5% 1/8W
R927	61L1206101	GP	CHIP 100 OHM 5% 1/4W
R928	61L1206201	GP	200 OHM 1/4W
R930	61L0805240 2F	GP	CHIP 24KOHM +-1% 1/8W
R931	61L1206434	GP	430K 1206 1/4W 5%
R932	61L1206684	GP	CHIPR 680K OHM+-5% 1/4W
R933	61L0805103	GP	CHIPR 10K OHM +-5% 1/8W
R934	61L1206101	GP	CHIP 100 OHM 5% 1/4W
R935	61L1206101	GP	CHIP 100 OHM 5% 1/4W
R936	61L1206101	GP	CHIP 100 OHM 5% 1/4W

R937	61L1206101 GP	CHIP 100 OHM 5% 1/4W
ZD801	93G 39S 24 T	RLZ 5.6B LLDS
ZD802	93G 39S 24 T	RLZ 5.6B LLDS
ZD805	93G 39S 24 T	RLZ 5.6B LLDS
ZD901	93G 39S 41 T	RLZ24B LLDS
ZD902	93G 39S 17 T	RLZ12B LLDS
ZD903	93G 39S 19 T	PTZ7.5B
ZD904	93G 39S 25 T	RLZ5.1B LLDS
	715G1499 1 GP	PCB
C905	6G 31502 GP	1.5MM RIVET
C922	67G 3051007NT GP	KME50VB10M-TP5 5*11
C923	67G 2154797NT GP	KY, 4.7UF +-20% 50V 105
C930	65G 2K152 1T GP	CERAMIC CAP
C931	65G 2K152 1T GP	CERAMIC CAP
C932	65G 2K152 1T GP	CERAMIC CAP
C933	65G 2K152 1T GP	CERAMIC CAP
C934	65G 2K152 1T GP	CERAMIC CAP
CN901	6G 31500 GP	EYELET
D901	93G 6026T52T	RECTIFIER DIODE FR107
D902	6G 31502 GP	1.5MM RIVET
D905	93G 6038T52T	FR103
F901	84G 55 7 GP	FUSE 3.15A 250V
IC903	56G 158 4 T A	H431BA
IC903	56G 158 10 T	AZ431AZ-AE1
JP801	95G 90 23 GP	TIN COATED
JP802	95G 90 23 GP	TIN COATED
JP803	95G 90 23 GP	TIN COATED
JP804	95G 90 23 GP	TIN COATED
JP805	95G 90 23 GP	TIN COATED
JP806	95G 90 23 GP	TIN COATED
JP807	95G 90 23 GP	TIN COATED
JP808	95G 90 23 GP	TIN COATED
JP809	95G 90 23 GP	TIN COATED
JP810	95G 90 23 GP	TIN COATED
JP811	95G 90 23 GP	TIN COATED
JP812	95G 90 23 GP	TIN COATED
JP813	95G 90 23 GP	TIN COATED
JP814	95G 90 23 GP	TIN COATED
JP815	95G 90 23 GP	TIN COATED

JP816	95G 90 23 GP	TIN COATED
JP818	95G 90 23 GP	TIN COATED
JP819	95G 90 23 GP	TIN COATED
JP820	95G 90 23 GP	TIN COATED
JP821	95G 90 23 GP	TIN COATED
JP822	95G 90 23 GP	TIN COATED
JP823	95G 90 23 GP	TIN COATED
JP824	95G 90 23 GP	TIN COATED
JP825	95G 90 23 GP	TIN COATED
JP826	95G 90 23 GP	TIN COATED
JP827	95G 90 23 GP	TIN COATED
JP828	95G 90 23 GP	TIN COATED
JP829	95G 90 23 GP	TIN COATED
JP901	95G 90 23 GP	TIN COATED
JP902	95G 90 23 GP	TIN COATED
JP903	95G 90 23 GP	TIN COATED
JP904	95G 90 23 GP	TIN COATED
JP905	95G 90 23 GP	TIN COATED
JP906	95G 90 23 GP	TIN COATED
JP908	95G 90 23 GP	TIN COATED
JP909	95G 90 23 GP	TIN COATED
JP910	95G 90 23 GP	TIN COATED
JP911	95G 90 23 GP	TIN COATED
JP912	95G 90 23 GP	TIN COATED
JP913	95G 90 23 GP	TIN COATED
JP914	95G 90 23 GP	TIN COATED
JP915	95G 90 23 GP	TIN COATED
JP917	95G 90 23 GP	TIN COATED
JP918	95G 90 23 GP	TIN COATED
L901	6G 31502 GP	1.5MM RIVET
L902	6G 31502 GP	1.5MM RIVET
PT801	6G 31502 GP	1.5MM RIVET
PT802	6G 31502 GP	1.5MM RIVET
Q903	6G 31502 GP	1.5MM RIVET
R823	61G212Y625 KT GP	MATEL GLAZE 6.2M OHM 3K
R827	61G212Y625 KT GP	MATEL GLAZE 6.2M OHM 3K
R904	6G 31502 GP	1.5MM RIVET
T901	6G 31502 GP	1.5MM RIVET
	96G 29 10 GP	H.S.TUBE

NR901	61G 58080 WT GP	8 OHM NCTR
	52G6025 12113 GP	MYLAR
CN901	87G 501 27 RF GP	AC SOCKET
	90G6241 1 GP	HEAT SINK
	AM1G1730 8128 GP	SCREW M3*8
D904	93G 60248	SP20100
	90G6241 2 GP	HEAT SINK
	AM1G1730 8128 GP	SCREW M3*8
D902	93G 60245	SP10150
	90G6064 1 GP	HEAT SINK
	AM1G1730 8128 GP	SCREW M3*8
Q903	57G 600 35	STP8NK80ZFP
Q903	57G 667 20	AP2761I-A TO-220CFM
	96G 29 6 GP	SHRINK TUBE UL/CSA
R905	61G152M10458F GP	100K OHM 5% 2W
	96G 29 6 GP	SHRINK TUBE UL/CSA
R904	61G152M39858F GP	0.39 OHM 5% 2W
	95G 90 23 GP	TIN COATED
	96G 29 1 GP	SHRINK TUBE UL/CSA
	KEPC982KS2P	KEY BOARD
	1G6017 1 GP	THUMB-SCREW
	12G6088 1 GP	BASE BUBBER FOOT
	15G8180 1 GP	BKT -BASE-UPPER
	15G8181 1 GP	BKT -BASE-LOWER
	15G8243 1 GP	BKT VESA
	33G4877 RT L GP	BUTTON
	33G4879 OD L GP	LENS
	33G4883 1 X GP	RINGE SWIVEL
	34G1585APY B GP	BEZEL
	34G1598 LO B GP	STAND COVER-F
	34G1599 LO B GP	STAND COVER-R
	34G1600 LO B GP	BASE
	37G 540 1 GP	19" FIX HINGE
	40G 45783425A GP	SCREW LABEL
	40G 45783428A GP	19" LABEL
	45G 88609 24 GP	EPE BAG FOR BASE
	52G6025 12112 GP	MYLAR 35*10
	95G8014 10 22 GP	K/B WIRE HARNESS
	Q1G 140 6120 GP	T4*8 SCREW

	Q1G1030 6120 GP	SCREW
	SM1G 140 6125 GP	SCREW
	W33G4881 LO L GP	

KEPC982KS2P

Symbol	Part NO. for TPV	Description
	AIK982KS1SMTP	KEY BOARD
	715G1518 1 GP	PCB
CN101	33G8034 9A GP	WAFER
DP101	81G 14 6 KT GP	KEL-HJDGE33B-TRB
SW101	77G 605 1 AL GP	SMD SWITCH
SW102	77G 605 1 AL GP	SMD SWITCH
SW103	77G 605 1 AL GP	SMD SWITCH
SW104	77G 605 1 AL GP	SMD SWITCH
SW105	77G 605 1 AL GP	SMD SWITCH
SW106	77G 605 1 AL GP	SMD SWITCH
ZD101	93G 39S 34 T	UDZS5.6B
ZD102	93G 39S 34 T	UDZS5.6B
ZD103	93G 39S 34 T	UDZS5.6B
ZD104	93G 39S 34 T	UDZS5.6B
ZD105	93G 39S 34 T	UDZS5.6B
ZD106	93G 39S 34 T	UDZS5.6B
ZD107	93G 39S 34 T	UDZS5.6B
ZD108	93G 39S 34 T	UDZS5.6B

8. Schematic

AOC LCD CONTROLLER BOARD SCHEMATICS For Sony S75/S95

REVISION HISTORY

Date	Author	Ver	Comments
12/31 '04	Daniel Huang	A	Preliminary
02/22	Daniel Huang	B	1. CN401 change from 14 pin to 10 pin. 2. Del R321,R322 3. Move Power_On to GPIO11 , LED_G to GPIO13, LED_O to GPIO14, 4. Remove R412, 5.Change from ADG884 to ADG779 6 .Add R703-R714, D701-D703, C704, R715, ZD701, C702, C705, R716-R717, CN703, C702, C703, U702, U703
03/03	Daniel Huang	C	3/3 Add Q301,Q302,R333,R332,R334 Add R413 Change ZD701 to RLZ6.2B 3/31 change C329 from 0.01uF to NC 4/4 Change R715, ZD701 to NC
04/07			ADD C225, ZD216
04/13			1. change C329 from NC to 4.7nF 2. Add R338,R335 for reverse ver.BC brown out detect 3. ADD R336 ,R337 for gm2621 ver.BC 4. ADD Q701,R718-9 for audio select
04/21			1. DEL ZD214 ZD215 3 C214-220 change value from 0.047uF to 0.01uF for RGB input
04/25			1. R222,R225,R231 change value from 180ohm to 100ohm 2 change C329 from 0.047uF to NC 3. Add C706~C717, change value R703~R706,R716~7 from 0 ohm to bead 120ohm for EMI.
04/28			1. ADD C718~C721,C702,C705 47u/25V 2. Change R707~R714 value from NC to 100K
05/16			1. Change Q301 from 2N3904 to DTC144WK 2. Change R707~R714 value from 100K to 220K 3. ADD C718~C721, R720~R721, D705~D706, R339,R340,R341,R342,C722,C226
05/17			1. change C501 value from 47uF to 100uF, add ZD501 2. Add R722~725 3. Add ZD301
05/17			1. change D213 form BAV70 to BAT54C
06/28	Daniel Huang		1. change R402 value form 1Kohm to 510ohm 2. change R414 value form 1Kohm to 3.9Kohm
07/12			3. change R332 value from 0 ohm to NC , change R334 value NC to 0 ohm 4. chagne Q302,R333,Q301 to NC.

CONTENTS

SCHEMATIC	SHEET
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SIGNAL INPUT	2
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K/B	4
Panel Interface for LVDS	5
Power	6
Audio	7

Approval	Organization	Signature	Date

Title: **Content**

Size: A | Document Number: gm5626 | Rev: F

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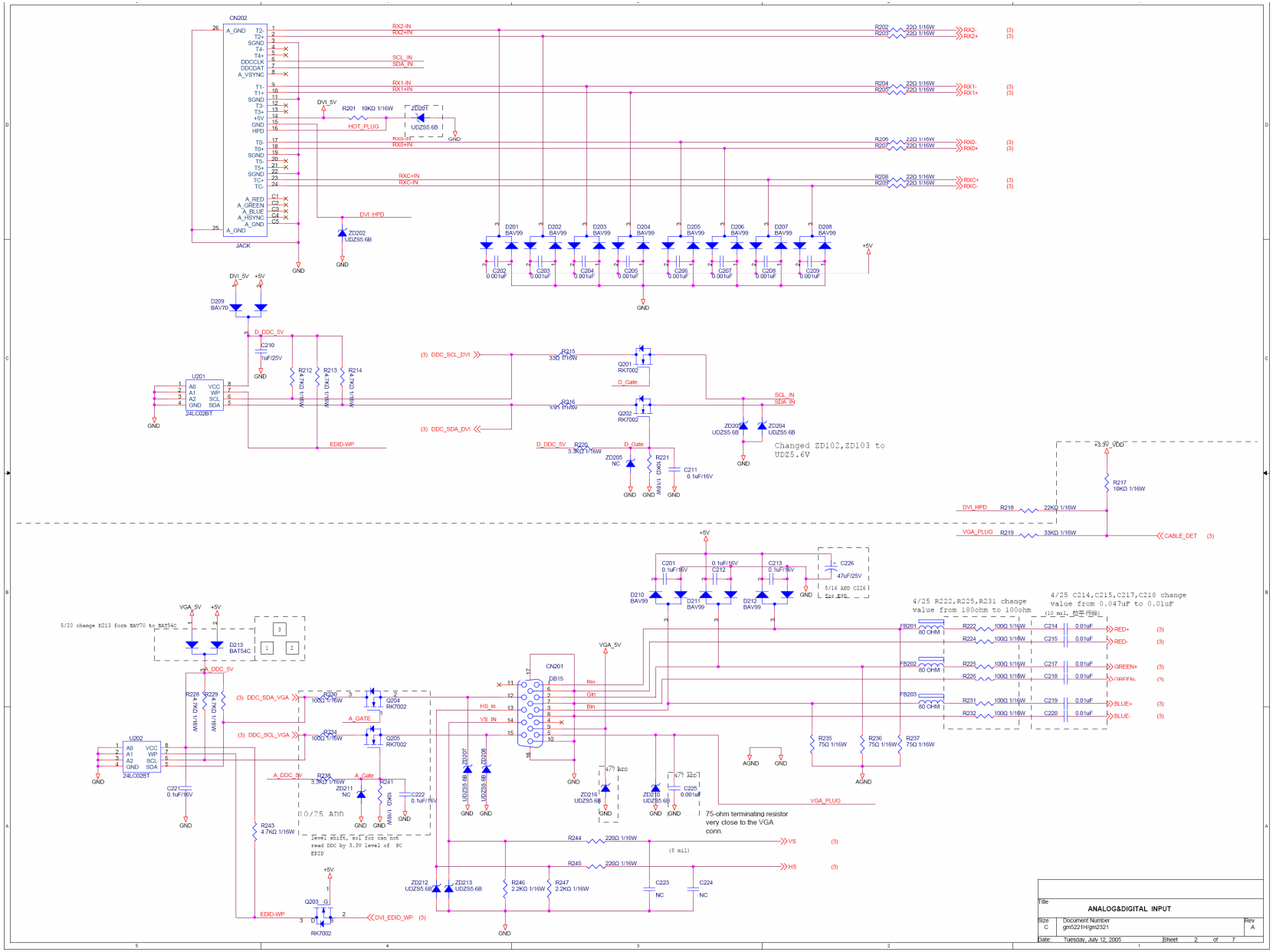
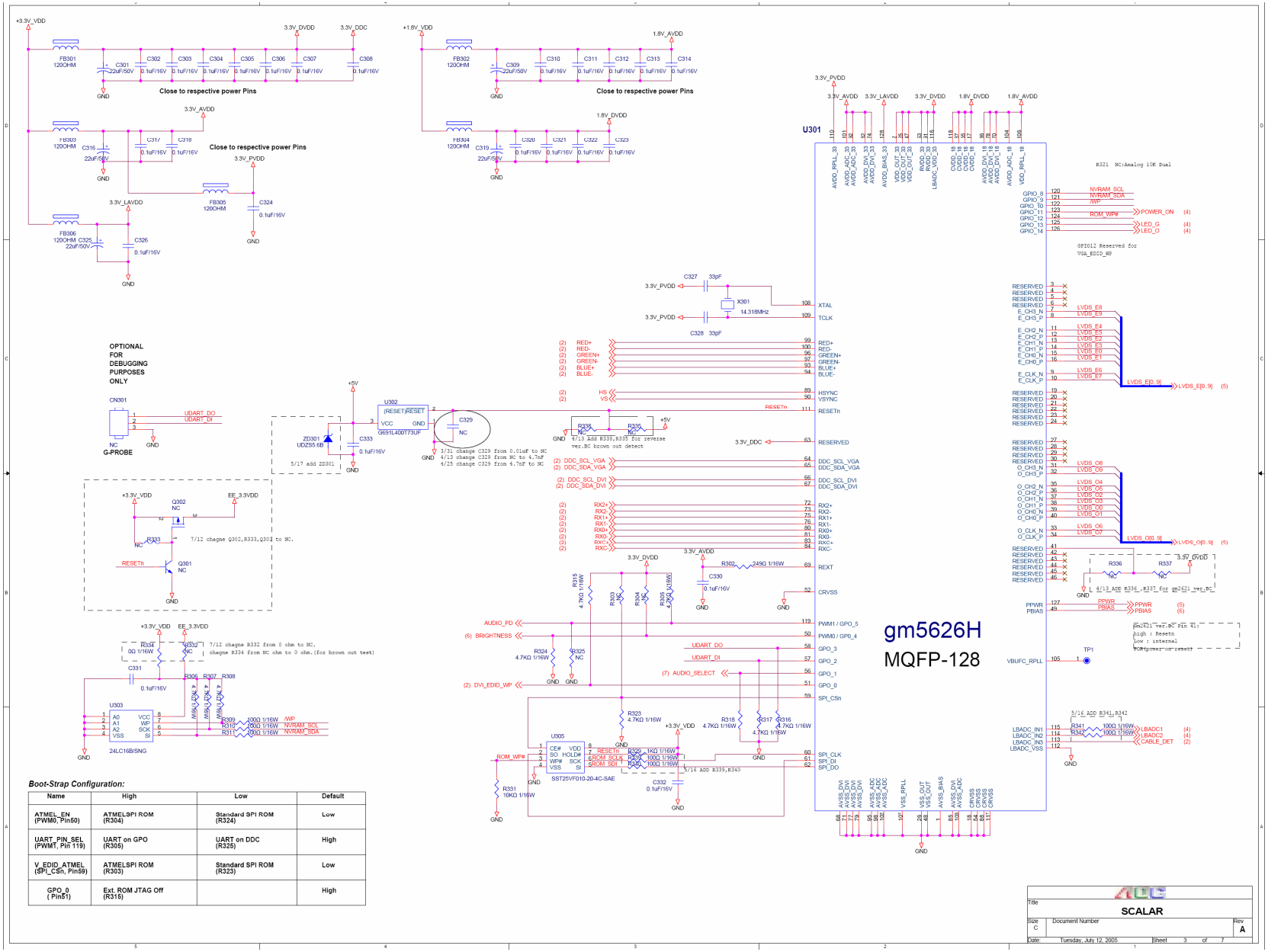
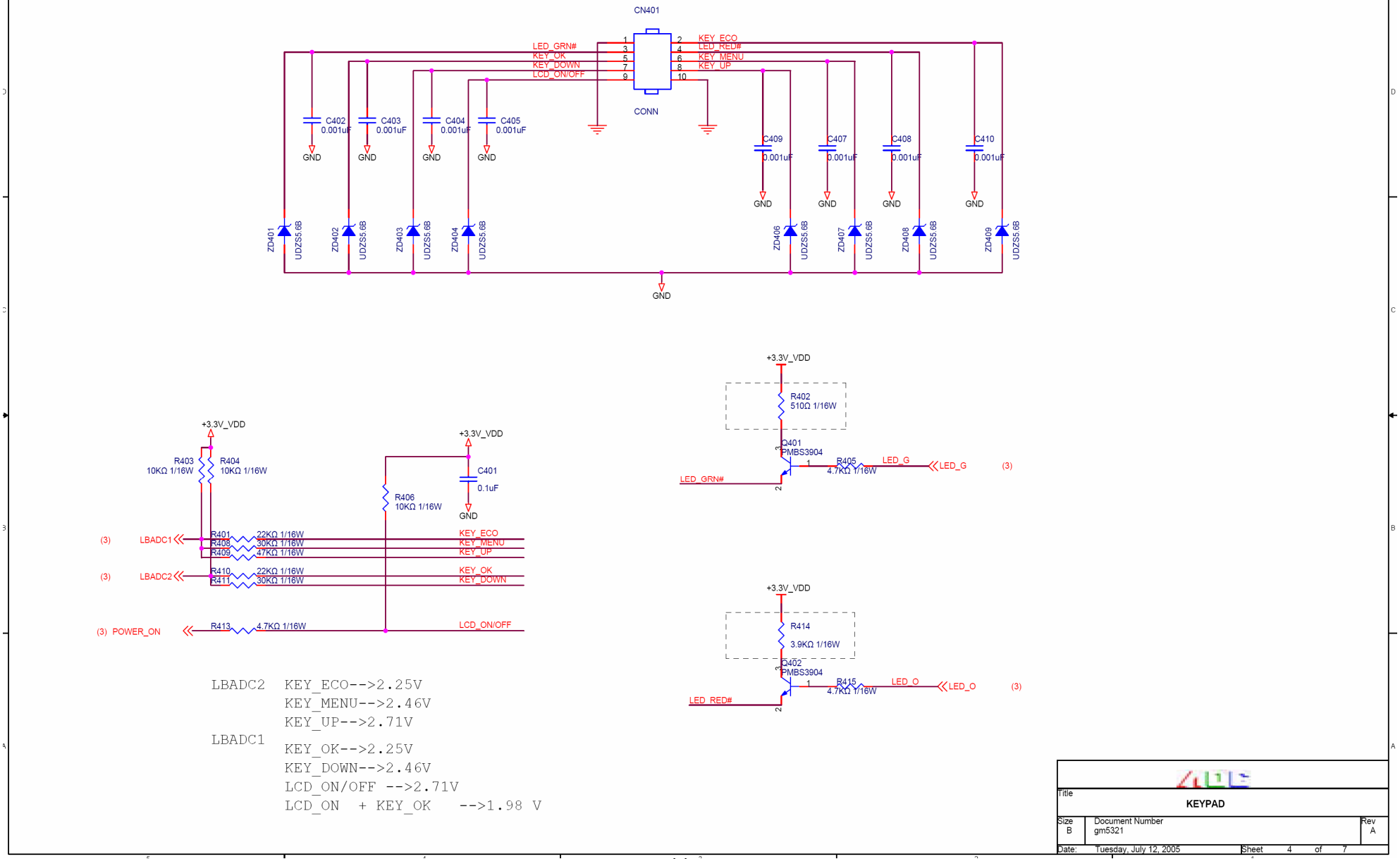

CN202
JACK
RX2-IN
RX2+IN
SCL_IN
SDA_IN
RX1-IN
RX1+IN
HOT_PLUG
RX0-IN
RX0+IN
RXC+IN
RXC-IN
DVI_HPD
D_DDC_5V
EDID-WP
U201
24LC02BT
D_Gate
SCL_IN
SDA_IN
Changed ZD102,ZD103 to UD25.6V
+3.3V_VDD
CABLE_DET
VGA_5V
5/20 change D213 form BAV70 to BAT54C
A_DDC_5V
A_GATE
A_Gate
U202
24LC02BT
CN201
DB15
HS_in
VS_IN
VGA_PLUG
4/25 R222,R225,R231 change value from 180ohm to 100ohm
4/25 C214,C215,C217,C218 change value from 0.047uF to 0.01uF
10/25 ADD
Level shift, so for can not read DDC by 3.3V level of PC EDID
75-ohm terminating resistor very close to the VGA conn.
ANALOG&DIGITAL INPUT
Document Number
gm6221H/gm2321
Tuesday, July 12, 2005


gm5626H
MQFP-128
SCALAR
Close to respective power Pins
OPTIONAL FOR DEBUGGING PURPOSES ONLY
G-PROBE
Boot-Strap Configuration:
Name | High | Low | Default
ATMEL_EN (PWM0_Pin50) | ATMELSPI ROM (R304) | Standard SPI ROM (R324) | Low
UART_PIN_SEL (PWM1, Pin 119) | UART on GPO (R305) | UART on DDC (R326) | High
V_EDID_ATMEL (SPI_CSn, Pin59) | ATMELSPI ROM (R303) | Standard SPI ROM (R323) | Low
GPO_0 (Pin51) | Ext. ROM JTAG Off (R316) | | High
Tuesday, July 12, 2005



LBADC2 KEY_ECO-->2.25V
KEY_MENU-->2.46V
KEY_UP-->2.71V

LBADC1 KEY_OK-->2.25V
KEY_DOWN-->2.46V
LCD_ON/OFF -->2.71V
LCD_ON + KEY_OK -->1.98 V

Title	KEYPAD	
Size B	Document Number gm5321	Rev A
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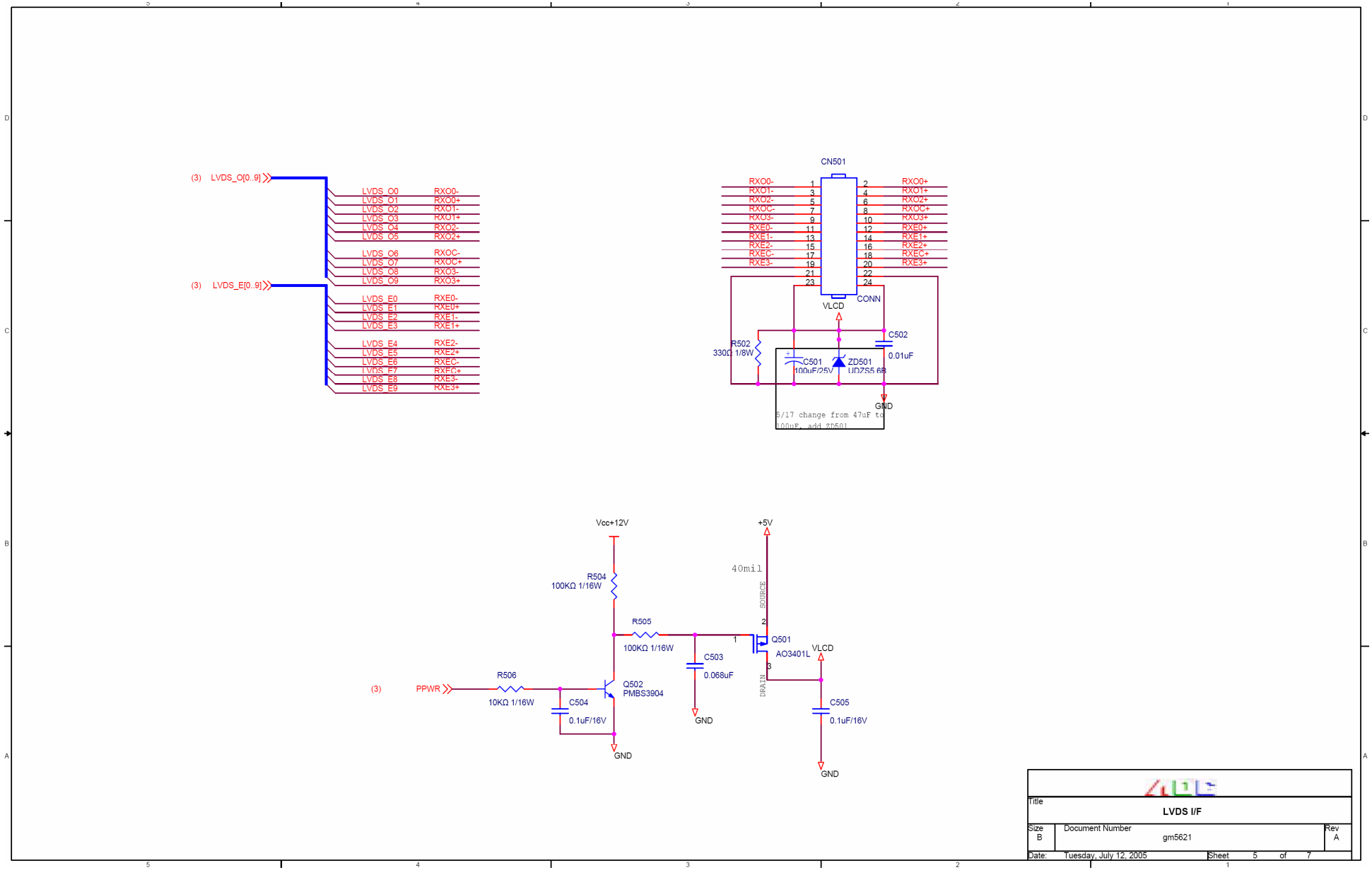
(3) LVDS_O[0..9]
LVDS_O0 RXO0-
LVDS_O1 RXO0+
LVDS_O2 RXO1-
LVDS_O3 RXO1+
LVDS_O4 RXO2-
LVDS_O5 RXO2+
LVDS_O6 RXOC-
LVDS_O7 RXOC+
LVDS_O8 RXO3-
LVDS_O9 RXO3+
(3) LVDS_E[0..9]
LVDS_E0 RXE0-
LVDS_E1 RXE0+
LVDS_E2 RXE1-
LVDS_E3 RXE1+
LVDS_E4 RXE2-
LVDS_E5 RXE2+
LVDS_E6 RXEC-
LVDS_E7 RXEC+
LVDS_E8 RXE3-
LVDS_E9 RXE3+
CN501
RXO0- 1
RXO1- 3
RXO2- 5
RXOC- 7
RXO3- 9
RXE0- 11
RXE1- 13
RXE2- 15
RXEC- 17
RXE3- 19
21
23
2 RXO0+
4 RXO1+
6 RXO2+
8 RXOC+
10 RXO3+
12 RXE0+
14 RXE1+
16 RXE2+
18 RXEC+
20 RXE3+
22
24
CONN
VLCD
R502
330Ω 1/8W
C501
100uF/25V
ZD501
UDZS5.6B
C502
0.01uF
GND
5/17 change from 47uF to
100uF, add ZD501
Vcc+12V
R504
100KΩ 1/16W
R505
100KΩ 1/16W
C503
0.068uF
GND
(3) PPWR
R506
10KΩ 1/16W
C504
0.1uF/16V
Q502
PMBS3904
GND
+5V
40mil
SOURCE
2
1
Q501
AO3401L
3
DRAIN
VLCD
C505
0.1uF/16V
GND
Title
LVDS I/F
Size B
Document Number
gm5621
Rev A
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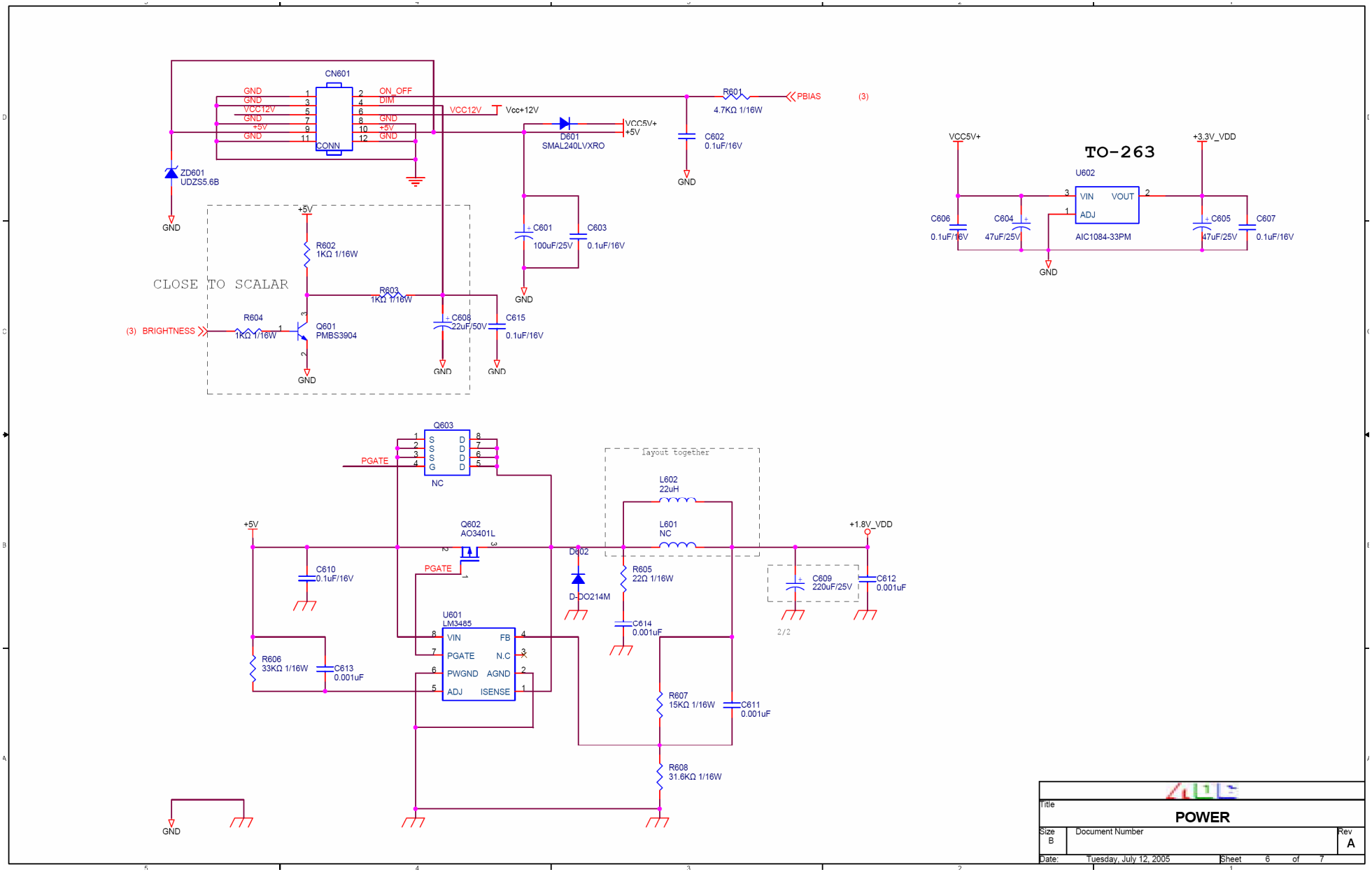
CN601
GND
GND
VCC12V
GND
+5V
GND
ON_OFF
DIM
GND
+5V
GND
CONN
VCC12V
Vcc+12V
D601
SMAL240LVXRO
VCC5V+
+5V
R601
4.7KΩ 1/16W
PBIAS
(3)
C602
0.1uF/16V
ZD601
UDZS5.6B
C601
100uF/25V
C603
0.1uF/16V
CLOSE TO SCALAR
R602
1KΩ 1/16W
R603
1KΩ 1/16W
R604
1KΩ 1/16W
(3) BRIGHTNESS
Q601
PMBS3904
C608
22uF/50V
C615
0.1uF/16V
TO-263
U602
VIN
VOUT
ADJ
AIC1084-33PM
VCC5V+
+3.3V_VDD
C606
0.1uF/16V
C604
47uF/25V
C605
47uF/25V
C607
0.1uF/16V
Q603
PGATE
NC
layout together
L602
22uH
L601
NC
+5V
Q602
AO3401L
PGATE
D602
D-DO214M
+1.8V_VDD
C610
0.1uF/16V
R605
22Ω 1/16W
C609
220uF/25V
C612
0.001uF
C614
0.001uF
U601
LM3485
VIN
FB
PGATE
N.C
PWGND
AGND
ADJ
ISENSE
R606
33KΩ 1/16W
C613
0.001uF
R607
15KΩ 1/16W
C611
0.001uF
R608
31.6KΩ 1/16W
Title
POWER
Size
B
Document Number
Rev
A
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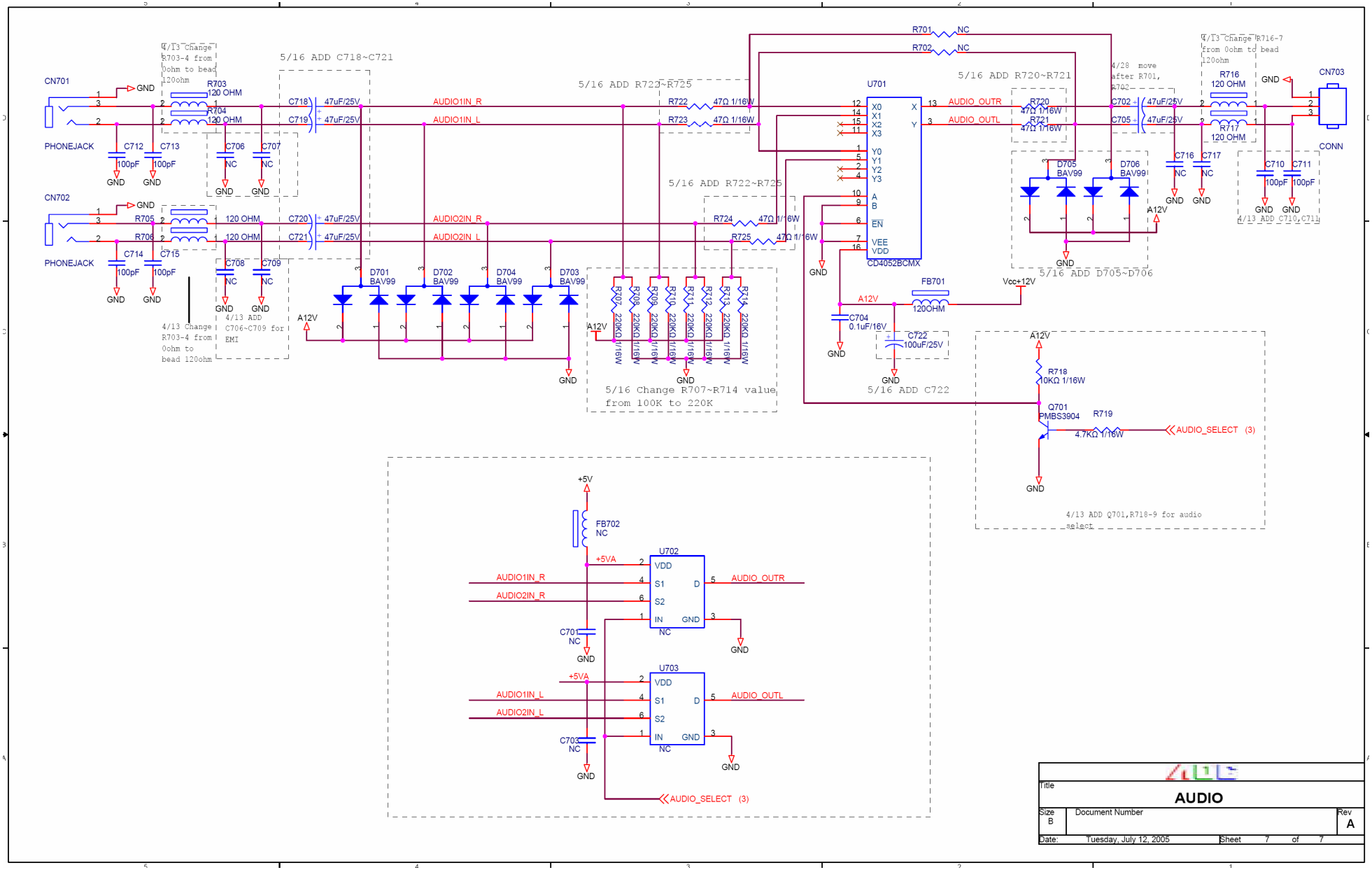
CN701
CN702
CN703
CONN
PHONEJACK
PHONEJACK
R703 120 OHM
R704 120 OHM
R705 120 OHM
R706 120 OHM
C712 100pF
C713 100pF
C714 100pF
C715 100pF
C706 NC
C707 NC
C708 NC
C709 NC
C718 47uF/25V
C719 47uF/25V
C720 47uF/25V
C721 47uF/25V
AUDIO1IN_R
AUDIO1IN_L
AUDIO2IN_R
AUDIO2IN_L
5/16 ADD C718~C721
5/16 ADD R722~R725
5/16 ADD R722~R725
R722 47Ω 1/16W
R723 47Ω 1/16W
R724 47Ω 1/16W
R725 47Ω 1/16W
D701 BAV99
D702 BAV99
D704 BAV99
D703 BAV99
A12V
R707 220KΩ 1/16W
R708 220KΩ 1/16W
R709 220KΩ 1/16W
R710 220KΩ 1/16W
R711 220KΩ 1/16W
R712 220KΩ 1/16W
R713 220KΩ 1/16W
R714 220KΩ 1/16W
5/16 Change R707~R714 value from 100K to 220K
4/13 Change R703-4 from 0ohm to bead 120ohm
4/13 ADD C706~C709 for EMI
R701 NC
R702 NC
U701
CD4052BCMX
AUDIO_OUTR
AUDIO_OUTL
5/16 ADD R720~R721
R720 47Ω 1/16W
R721 47Ω 1/16W
4/28 move after R701, R702
C702 47uF/25V
C705 47uF/25V
D705 BAV99
D706 BAV99
5/16 ADD D705~D706
C716 NC
C717 NC
R716 120 OHM
R717 120 OHM
4/13 Change R716-7 from 0ohm to bead 120ohm
C710 100pF
C711 100pF
4/13 ADD C710,C711
FB701
120OHM
Vcc+12V
C704 0.1uF/16V
C722 100uF/25V
5/16 ADD C722
R718 10KΩ 1/16W
Q701 PMBS3904
R719 4.7KΩ 1/16W
AUDIO_SELECT (3)
4/13 ADD Q701,R718-9 for audio select
FB702 NC
+5V
+5VA
U702
U703
VDD
S1
S2
IN
D
GND
NC
C701 NC
C703 NC
AUDIO_SELECT (3)
Title
AUDIO
Size B
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